SANCTUARY LOST

PORTUGAL'S AIR WAR FOR GUINEA 1961–1974

VOLUME 1: OUTBREAK AND ESCALATION (1961–1966)

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Abbreviations

AA	anti-air; anti-aircraft
AAMG	anti-aircraft machine gun
AB	*aeródromo-base* (airfield-base)
AM	*aeródromo de manobra* (manoeuvre airfield)
AM	*Aeronáutico Militar* (Military Aviation)
AT	*aeródromo de trânsito* (transit airfield)
BA	*base aérea* (air base)
BCav	*Batalhão de Cavalaria* (Cavalry Battalion)
CCAA	*Centro Conjunto de Apoio Aéreo* (Joint Air Support Centre)
CCFAG	*Comando-Chefe das Forças Armadas da Guiné* (Commander-in-Chief of the Armed Forces of Guinea)
CGAM	*Comando-Geral do Aeronáutico Militar*
COIN	counterinsurgency
EICPAC	*Esquadra de Instrução Complementar de Pilotagem em Aviões de Combate* (Supplementary Combat Aircraft Pilot Training Squadron)
FAP	*Força Aérea Portuguesa* (Portuguese Air Force)
FARP	*Forças Armadas Revolucionárias do Povo* (People's Revolutionary Armed Forces)
FFAR	folding-fin aerial rockets
GIAC	*Grupo Independente de Aviação de Caça* (Independent Fighter Aviation Group)
GP	General purpose
IRAN	Inspect and Repair as Necessary
KIAS	knots indicated air speed
MDAP	Mutual Defense Assistance Program
MEDEVAC	medical evacuation
MLG	*Movimento de Libertação da Guiné* (Guinea Liberation Movement)
NATO	North Atlantic Treaty Organization
OGMA	*Oficinas Gerais de Material Aeronáutico* (General Aeronautical Material Workshops)
PAI	*Partido Africano da Independencia* (African Independence Party)
PAIGC	*Partido Africano da Independência da Guiné e Cabo Verde* (African Party for the Independence of Guinea and Cape Verde)
RA	*região aérea* (air region)
RAF	Royal Air Force
RPG	rocket-propelled grenade
SGDN	*Secretário-Geral da Defesa Nacional* (Secretary-General of National Defence)
STOL	short take-off and landing
TAP	*Transportes Aéreos Portugueses* (Portuguese Air Transport)
UN	United Nations
UNSC	United Nations Security Council
USAAF	United States Army Air Forces
USAF	United States Air Force
ZA	*zona de acção* (zone of action)
ZACVG	*Zona Aérea de Cabo Verde e Guiné* (Cape Verde and Guinea Air Zone)
ZLIFA	*zona de livre intervenção da Força Aérea* (air force free intervention zone)
ZPU	*zenitnaya pulemotnaya ustanovka* (anti-aircraft machine gun mount)

Notes on Terminology

Categories of Conflict

For the purposes of this paper, the following definitions from the U.S. armed forces' *DOD Dictionary of Military and Associated Terms* (November 2021) will apply throughout:

- Guerrilla: "Irregular, predominantly indigenous personnel organized along military lines to conduct military and paramilitary operations in enemy-held, hostile, or denied territory."
- Insurgency: "The organized use of subversion and violence to seize, nullify, or challenge political control of a region. Insurgency can also refer to the group itself." "Counterinsurgency," meanwhile, involves "military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat insurgency."
- Irregular Warfare: "A violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s)."
- Terrorism: "The unlawful use of violence or threat of violence, often motivated by religious, political, or other ideological beliefs, to instil fear and coerce individuals, governments, or societies."[1]

These definitions provide a useful baseline for clarifying terminology regarding forms and modes of warfare that do not fall within commonly held Western typologies of "conventional" war. Their usefulness is enhanced when one considers how armed actions might correspond to several of the above categories: for example, a "guerrilla" fighter might employ "terrorism" to advance an "insurgent" cause. Fortunately, the case study under review in this work involves a genuine insurgency operating primarily in a guerrilla context, so the terms "insurgent" and "guerrilla" can accurately be used more or less interchangeably. The related terms "militant" (indicating the use of violent means) and "nationalist" (seeking independence or separatism) are also used to denote insurgent/guerrilla activities.

Geopolitical Terminology

The geopolitical status of Portugal's overseas territories was a matter of intense legal and diplomatic wrangling from the early 1950s until the overthrow of the authoritarian *Estado Novo* (or "new state") regime in 1974. Portuguese statesmen preferred the term "overseas provinces" or simply "Overseas" (*Ultramar*), as the domains were formally constituted in Portuguese law. The Portuguese armed forces generally referred to them as "territories" or "theatres,"

preferring the latter during active military campaigning. Portugal's critics, on the other hand, overwhelmingly used the term "colonies," as did general Portuguese civil society. Since this work will focus on just one such territory, any or all of these terms may be used to refer to that entity depending on the context and the source.

The territory at the centre of this work has been variously referred to as "Portuguese Guinea," "Guinea-Bissau," or simply "Guinea."[2] Unless quoting another text directly, this work will use the term most often employed by both the Portuguese and its insurgent adversaries: "Guinea." The term enjoys the advantages of neutrality and simplicity, but to avoid confusion the neighbouring state also called Guinea today will always be referred to as the "Republic of Guinea" or "Guinea (Conakry)." Likewise, Portuguese Guinea after formal independence in 1974 will be called "Guinea-Bissau" (or more properly, "the Republic of Guinea-Bissau").

Military Ranks and Positions

Portuguese military ranks broadly conformed to the American and British systems, on which the NATO table of ranks was based. Officer ranks were divided into the junior (company grade), senior (field grade), and flag (general or admiral) tiers, and enlisted personnel occupied either junior or senior enlisted ranks, the latter including non-commissioned officers.

A modifier is often added to Portuguese military ranks to denote advanced training or specialised duties, such as "PilAv" (for *piloto aviador*) or "Enf" (for *enfermeiro*, or medic/combat nurse). A pilot of captain's rank, for example, would most often be entitled "Cap PilAv" in official documents.

During the colonial wars in Africa, Portuguese forces also used numerous personnel designations or categories that may require clarification. These include:

- *Caçadores*: Infantry (pl.), literally "hunters"
- *Fuzileiro* (or *fuzileiro marinheiro*): Marine/naval infantryman, literally "fusilier"
- *Miliciano*: Relating to the reserve or mobilisation component, called up for active service (analogous to the U.S. National Guard and military Reserves)
- *Soldado*: Any junior enlisted member of the Air Force as well as the Army (NATO OR-1 and OR-2 enlisted grades)

Table 1: Air Force Officer Ranks[3]

Portugal	NATO	USAF equivalent	RAF equivalent
Alferes	OF-1	2nd Lieutenant	Pilot Officer
Tenente		1st Lieutenant	Flying Officer
Capitão	OF-2	Captain	Flight Lieutenant
Major	OF-3	Major	Squadron Leader
Tenente-Coronel	OF-4	Lieutenant Colonel	Wing Commander
Coronel	OF-5	Colonel	Group Captain
none	OF-6	Brigadier General	Air Commodore
Brigadeiro	OF-7	Major General	Air Vice Marshall
General	OF-8	Lieutenant General	Air Marshall
General (4-star)	OF-9	General	Air Chief Marshall
Marechal	OF-10	General of the Air Force	Marshal of the RAF

NATO grades OF-1 through OF-2 = "Junior (or Company Grade) Officer"
NATO grades OF-3 through OF-5 = "Senior (or Field Grade) Officer"
NATO grades OF6 through OF-10 = "Flag (or General) Officer"

Table 2: Air Force Senior Enlisted/Non-Commissioned Officer Ranks

Portugal	NATO	USAF equivalent	RAF equivalent
Primeiro-Cabo	OR-4	Senior Airman	Corporal
Segundo-Sargento; Furriel	OR-5	Staff Sergeant	none
Primeiro-Sargento	OR-6	Technical Sergeant	Sergeant
Sargento-Adjudante	OR-7	Master Sergeant	Flight Sergeant; Chief Technician
Sargento-Chefe	OR-8	Senior Master Sergeant	none
Sargento-Mor	OR-9	Chief Master Sergeant	Warrant officer

Aircraft Nomenclature

Military aircraft are typically identified by one of three elements: the originating enterprise (e.g., "Boeing" or "MiG"[4]), its alphanumeric designation (such as "B-52"), its official name if one has been given (in this example, "Stratofortress"), or a combination of these. Sometimes an informal nickname, such as "Warthog" or "Viper," is the most familiar identifier.[5] Such informal monikers are often deliberately derogatory, e.g. "Mud Hen," "Lawn Dart," or "BUFF."[6]

In Western (especially military) writings, Soviet- and Chinese-produced aircraft are also – and often exclusively – identified by their North Atlantic Treaty Organization (NATO) reporting name ("Fishbed," "Bear," or "Hind," for example).[7] European-produced aircraft follow a variety of designation schemes but can always be identified by manufacturer, aircraft name, and model/mark. For this work, after the first mention all aircraft are identified either by their given alphanumeric designation or most familiar nickname (official or otherwise). NATO reporting names are used only for direct quotations or when otherwise necessary.

One important aircraft flown by the Portuguese Air Force in Guinea has been referred to by a variety of terms and designators: the "G.91" (or "G-91"), the "Fiat," the "G.91-R4," the "Yato," the "Porquinho," or the "Gina." Each of these identifiers refers to the same type and model of aircraft used in Guinea. We consistently use the official nomenclature unless a direct quote uses a different term. That correct form is "Fiat G.91-R4" or, in short, "G.91."[8]

Measurements

In accordance with NATO and International Civil Aviation Authority (ICAO) standards, aviation measurements employ

the U.S. "customary" system of feet and nautical miles (1NM is approximately 1.15 statute miles, or 1.85 kilometres).

For terrestrial measurements, NATO and nearly all military forces worldwide – including the U.S. Army – employ the metric system of metres and kilometres, and this work conforms to that convention.

Weapons measurements (calibre or weight) will remain as specified by the originator. Gun or rocket calibre may be expressed in millimetres or inches, for example, and bomb weights in pounds or kilograms, depending on the manufacturer's nomenclature.

U.S. Aircraft Naming System

North American F-86 F Sabre	
Manufacturer	North American
Alphanumeric designation; model/ mark	F-86 F
Official nickname	Sabre

Soviet Aircraft Naming System

Mikoyan-Gurevich MiG-17 F Fresco C	
Designer bureau	Mikoyan-Gurevich
Aircraft designation	MiG
Variant and NATO reporting name	17 F Fresco
NATO model identifier	C

Representative European Aircraft Naming System

FIAT G.91-R4 "Gina"	
Manufacturer	Fiat Aviazione
Aircraft designation	G.91
Model / mark	R4
Nickname	"Gina" (unofficial)

Introduction: Crocodiles and Bombs

—I also want to go fishing, Uncle Aliu!
—You cannot, Abdulai, because it's dangerous.
—Uncle, I'm not afraid of the crocodiles!
—You know, now there aren't just crocodiles. There are also the colonialists who drop bombs on the canoes, [but] I cannot fear the crocodiles or the bombs. This is my mission, as a militant of our Party.[1]

The 1960s were a period of extraordinary change in military aviation. Supersonic aircraft proliferated widely; missiles and radar fundamentally altered the physics of aerial warfare; and in general, planes flew farther, faster, and higher while carrying ever more powerful weapons. Major air battles over the Middle East and Southeast Asia stressed the utility of technological advances in conventional combat, while theoretical deliberations highlighted the promise of future scientific developments impacting aerial warfare. "The decisive weapons of the future will be aerospace weapons," U.S. Air Force (USAF) Chief of Staff General Thomas D. White asserted at the beginning of the decade. "That nation, or group of nations, which maintains predominance in this area – not only in its military forces, but also in its laboratories, in its industries, and in its technology – will possess the means for survival."[2]

In Portugal, the 1960s and early 1970s witnessed another kind of transformation. From 1961 to 1975, the period corresponding to active American military involvement in Southeast Asia, Portugal fought its own "Vietnam" in Africa. But it was not the high-tech affair predicted by most airpower observers: rather, the pilots and planes of the *Força Aérea Portuguesa* (FAP) flew a subsonic, low-altitude air war with very little electronic embellishment against a guerrilla adversary completely lacking airpower of its own. The FAP's African operations were also small-scale, low-intensity affairs compared to other air wars of the period, the latter waged over objectives and regions deemed more important by the "superpowers" of the Cold War era. Perhaps for these reasons Portugal's air war in Africa passed largely unnoticed by most contemporary observers and airpower practitioners, especially outside Africa or Portugal itself.

Yet the FAP's air campaign in one African theatre, Portuguese Guinea (today the Republic of Guinea-Bissau), vividly demonstrated both the value and the vulnerabilities of airpower in an irregular context, particularly as a counterinsurgency (COIN) instrument. From 1963 to 1974 the FAP successfully performed missions there spanning the spectrum of aerial operations, from sustained bombing offensives to humanitarian activities. At the level of direct action and immediate military outcomes the FAP proved the most important weapon in Portugal's fight against "subversive warfare,"[3] and at times its modest air commitment nearly collapsed the insurgent campaign in its entirety. However, and precisely because of the FAP's evident effectiveness, the entire imperial apparatus – and especially its military component – grew excessively dependent on the air force's contributions. Their nationalist foes consequently came to regard air defence as an existential priority, and throughout the conflict they invested progressively greater effort in securing at least a stalemate in the third dimension. These competing imperatives continually shaped both the insurgents' evolving air defence capabilities and the FAP's operations in Portuguese Guinea, forming the pivot upon which the war's outcome ultimately turned.

During Portugal's war for Guinea the FAP demonstrated remarkable staying power, waging a decade-long air campaign in an austere environment despite chronic deficiencies in aircraft, armament, and personnel – shortcomings compounded by internal economic stagnation, demographic challenges, and international hostility to Portugal's colonial intractability. The FAP's institutional stamina and resolve were even more remarkable given the air force's concurrent operations in Angola and Mozambique, as well as its commitments to the North Atlantic Treaty Organization (NATO). However, the FAP's adaptability and ingenious utilisation of available resources permitted it to persevere in sustaining an army scattered throughout some of the most inhospitable terrain on the planet. As former Portuguese commanders and more recent historians have observed, the FAP's endurance and innovative application of airpower represented, in the words of one, "a remarkable feat of arms" regardless of the war's final outcome.[4]

That outcome was preceded by equally noteworthy insurgent successes, including the first combat employment of what would become the most widely produced and deployed air defence missile in the world;[5] the first use of guided missiles by an insurgent movement; and the first wartime action involving such weapons in sub-Saharan Africa. While those weapons did not alone "win" the war for Portuguese Guinea, their use, more than any other single factor, determined the timing and the nature of its resolution. In so doing, they also helped decide the pace of Portugal's subsequent withdrawal from empire, the fate of its former colonies, and the political future of the Portuguese state itself.

From an operational perspective, the FAP in Guinea encountered many of the challenges confronting U.S. and coalition forces waging subsequent "low-intensity" air campaigns, even into the post-9/11 era. The interrelated issues of discrete targeting, civilian support, and strategic resolve plagued American airmen in Iraq and Afghanistan as they did their Portuguese predecessors in Guinea; the fundamental problems of supporting small, dispersed units in rugged and hostile territory have remained; and the quest to find the proper balance between force and forbearance in "irregular" circumstances continues in the age of stealth, stand-off precision, and space operations. Yet the air war for Portuguese Guinea remains largely unexplored in military, academic, and enthusiast circles today, especially outside Portugal. For all three audiences, however, Portugal's air war for Guinea provides a compelling account of airpower employed economically, innovatively, and often effectively during a period of acute geopolitical tumult and rapid technological change.

1
The Wind of Change

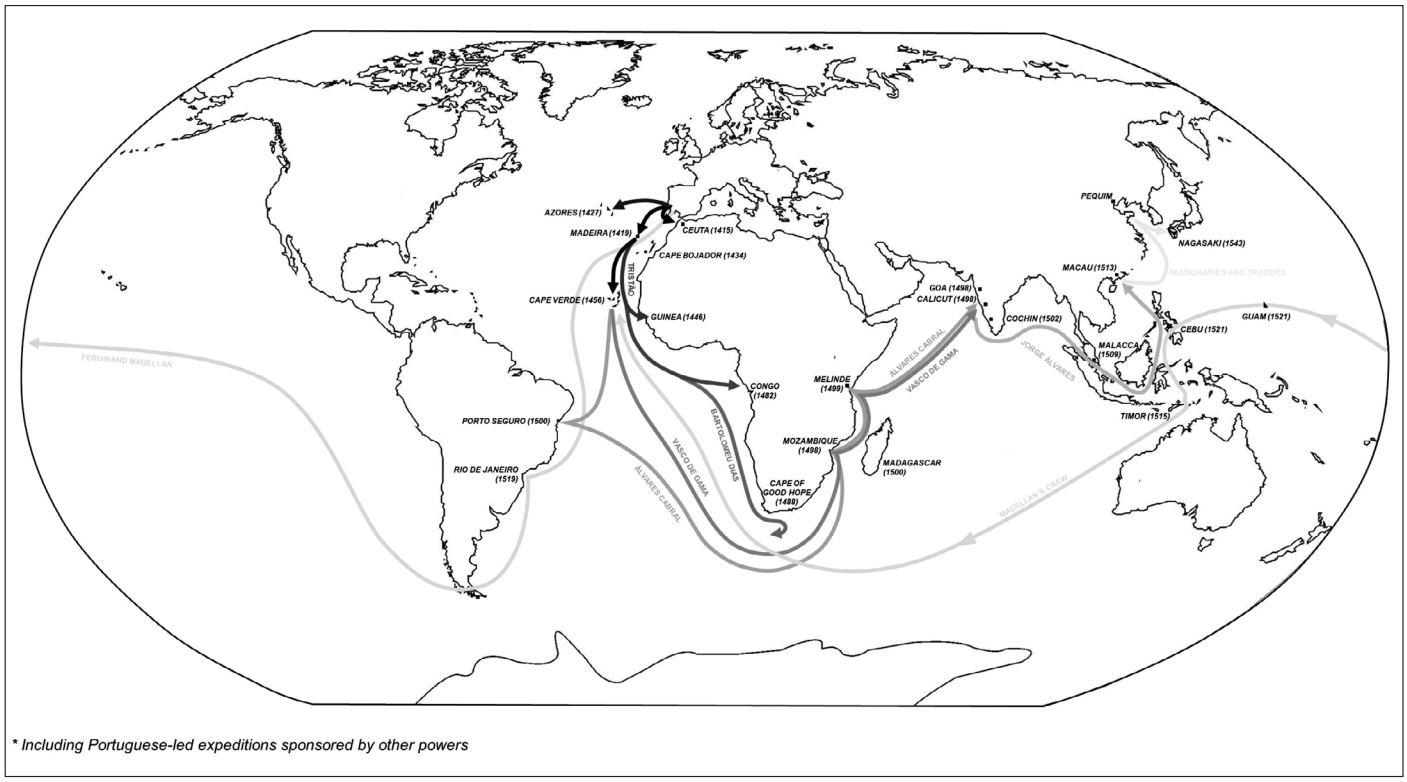
The wind of change is blowing through this continent, and, whether we like it or not, this growth of national consciousness is a political fact. We must all accept it as a fact, and our national policies must take account of it.[1]

The war for Portuguese Guinea had been half a millennium in the making. The first Portuguese mariners dropped anchor off the coast of present-day Guinea-Bissau in 1446, during the first great wave of global exploration and exploitation originating from southwestern Europe. Early Portuguese encroachment in Africa was limited as most of Lisbon's ships sailed on towards more lucrative destinations in Asia, but in their wake they left a string of trading posts and forts to secure Portugal's mercantile interests, particularly in the transatlantic slave traffic. Portugal's interest in west Africa remained a precarious coastal endeavour for centuries to follow, given the inadequacy of then-available transportation, medical, and war making means.[2] However, the limited reach and degree of Lisbon's regional influence did not dissuade the Portuguese crown from claiming sovereignty and economic exclusivity over the entire region and, after 1486, the supplementary royal title "Lord of Guinea."[3]

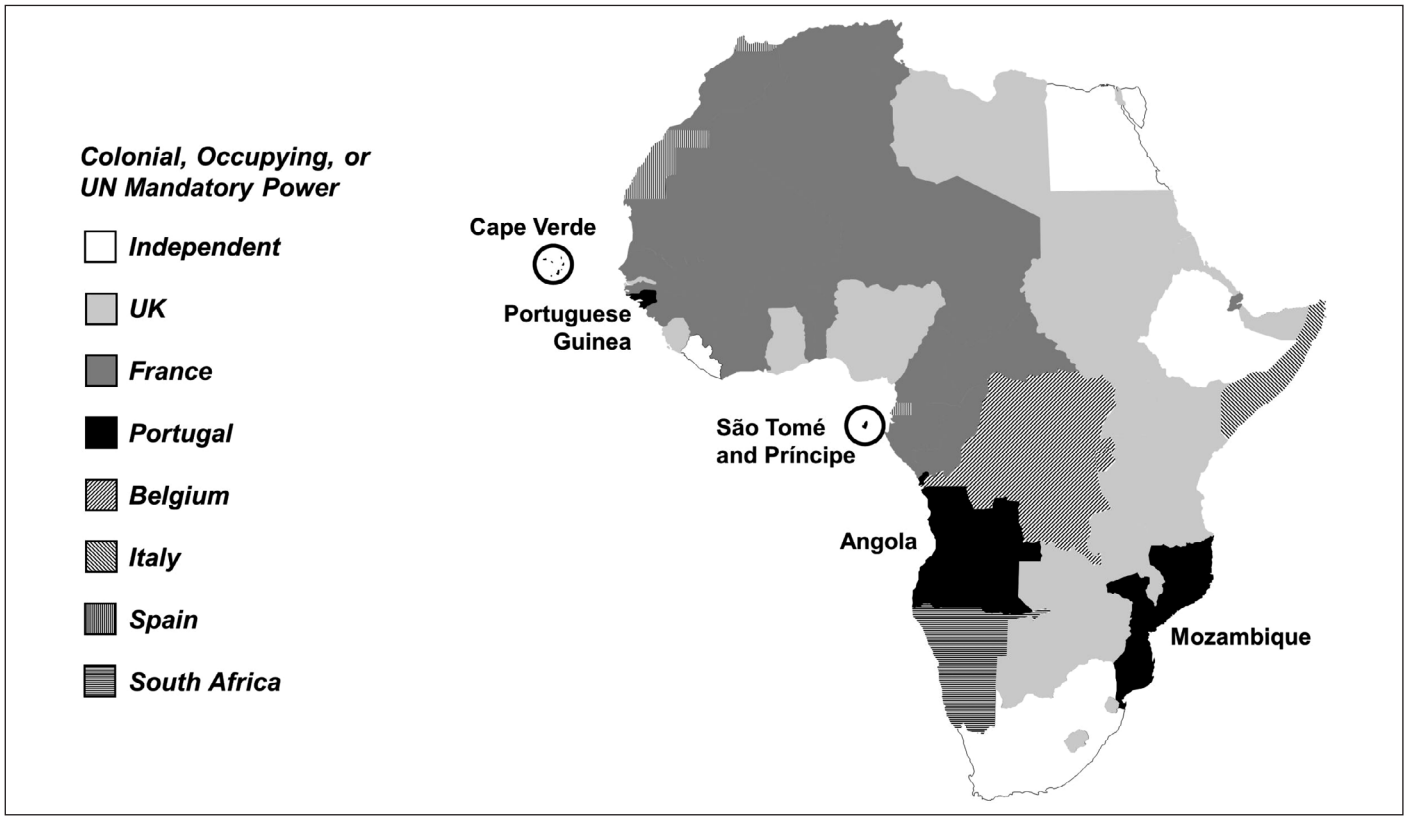
Two years later the first Portuguese ships rounded the Cape of Good Hope, and in 1498 Portugal established the first maritime route to India and thence the "Orient." As the sixteenth century began a Portuguese expedition landed in present-day Brazil, initiating a New World empire that would endure for three centuries.[4] The rapid expansion of Lisbon's influence and *imperium* continued through most of the sixteenth century, and the Portuguese have harkened back to the period 1497–1578 as *O Século Maravilhoso* ("The Marvellous century"), those years representing the apex of Portuguese power, prestige, and prosperity on a global scale.[5] Portugal's colonial fortunes gradually waned over the next three centuries as Lisbon lost control of the maritime choke-points between Europe and Asia, and reached their nadir in 1822 when Brazil declared independence. However, as the European "scramble for Africa" gathered pace in the late 1800s, Lisbon was compelled to either reinforce or renounce its remaining colonial claims.[6] Unwilling to surrender the last remnants of its glorious history to ambitious imperial competitors, Portugal initiated a series of campaigns to more fully subjugate its African holdings in 1895.[7] The Portuguese encountered fierce resistance and suffered some spectacular reverses during more than a dozen expeditions to "effectively occupy" Guinea, but by 1936 the province had been thoroughly incorporated into Portuguese imperial administration.[8]

Although Portuguese Guinea had been "pacified" to Lisbon's interim satisfaction, Portugal itself endured ongoing political and economic upheaval. Lisbon was twice compelled to declare bankruptcy, and in 1910 abolished the 900-year-old monarchy in favour of republican rule. Following its costly World War participation and a brief period of civil war, a conservative military faction overthrew the First Portuguese Republic in 1926 and established a dictatorship. In 1933 Portugal's new rulers proclaimed the *Estado Novo* ("New State"), a quasi-fascist regime under Prime Minister António de Oliveira Salazar. Salazar, an economist described as "a man of grave courtesy and turn-of-the-century demeanour,"[9] nurtured extravagant and often quixotic views of personal and national purpose tied inextricably to Portugal's imperial legacy.[10] These included grandiose notions of Portugal's "historic function of possessing and colonising overseas dominions and civilizing the indigenous populations contained therein," as proclaimed in the Colonial Act of 1930.[11]

Driven by the complementary incentives of national nostalgia and political utility, Salazar reinvigorated state efforts to promote support for continued Portuguese rule in the overseas territories, or "*Ultramar*." In the 1930s the *Estado Novo* initiated a pervasive public program to promote its increasingly anachronistic overseas policy by leveraging popular pride in Portugal's heroic past and "unchanging" national character.[12] Through every available avenue of public influence – from grand expositions and civic commemorations to church sermons and even elementary school maps – the *Estado Novo* waged a comprehensive campaign of public indoctrination emphasising the glories of Portuguese imperial history, the geographic scope of the Portuguese nation, and an inflated narrative of Portugal's global standing. Success was not long in coming, and by 1960 the extent of Portuguese power and territorial possession had grown to "megalomaniac dimensions" in the public imagination,[13] while civic life seemed to take place "in more than one century, as though Prince Henry the Navigator,



Major Portuguese Voyages of Exploration 1415–1543. (Matthew M. Hurley)



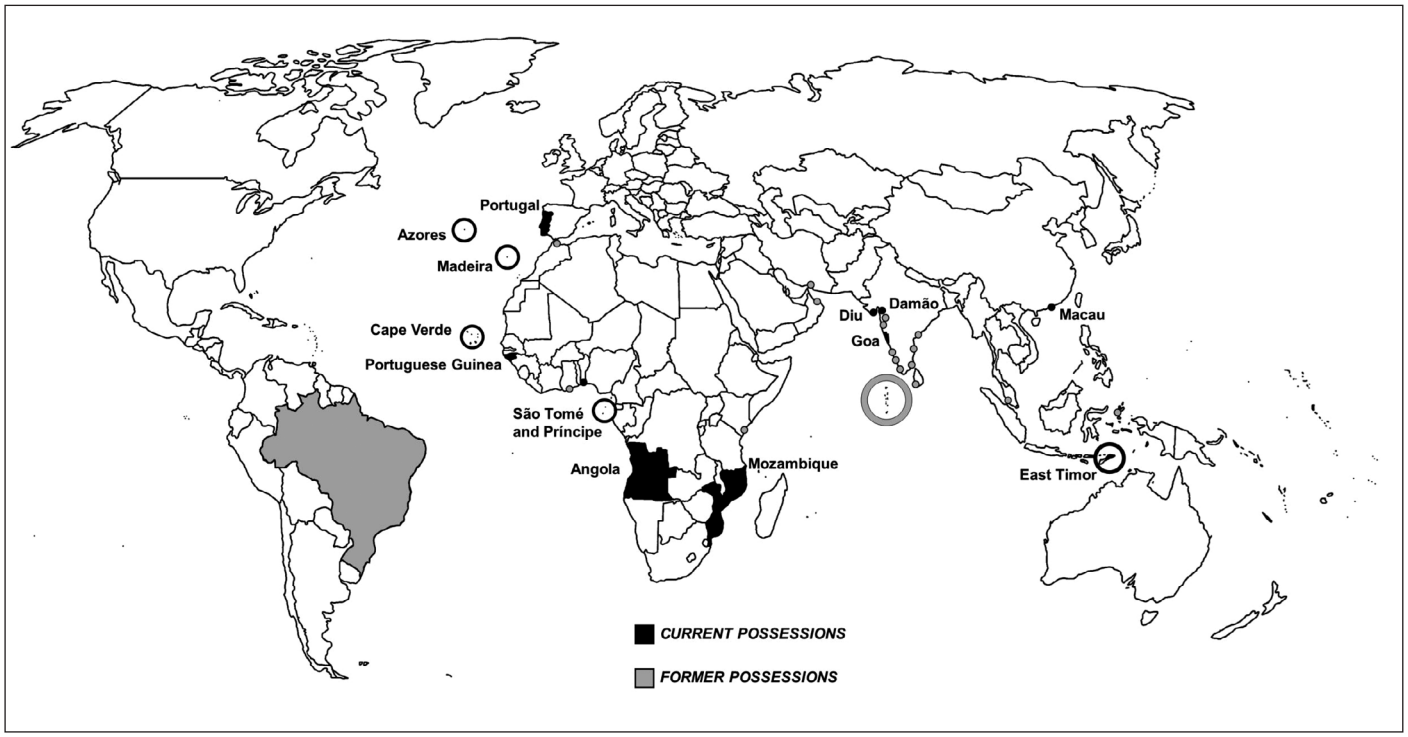
Colonial Africa 1950. (Matthew M. Hurley)

Vasco de Gama, and Ferdinand Magellan were still active agents in the shaping of Portuguese policy."[14]

Through a shared national narrative stressing historical and moral unity across multiple ethnicities and landmasses, Salazar sought to cultivate an impero-national identity built around "a pluri-continental and pluri-racial country, with only one spirit, only one government and only one flag," according to *Estado Novo* pronouncements.[15] To legitimise this vision of national identity, in 1951 Lisbon constitutionally re-branded its colonies as overseas "states" and "provinces," ostensibly equal to those of European Portugal in legal and political status.[16] Prime Minister Salazar correspondingly described them as "true states, administratively autonomous and politically integrated with Portugal," which after centuries of metropolitan dominion were as central to the nation's identity as the Iberian root.[17]

The change in constitutional status was purely cosmetic to Africans living under Lisbon's diktat, but the doctrine of "one and indivisible state" (*um estado uno e indivisível*) mandated the vigorous

Salazar in 1930 (third from the left) with the President of the Republic, Oscar Carmona (sixth from the left), and several other Government figures. (Lisbon Photography Archive – Portuguese Photography Centre)



Portuguese Overseas Territories 1960. (Matthew M. Hurley)

defence of every last shred of "Portuguese" real estate, however remote or inconsequential.[18] Having declared them all "constituent parts of [Portuguese] sovereignty,"[19] the *Estado Novo* regime could do no less and expect to survive: according to Lisbon's imperial doctrine, without its overseas territory even European Portugal would cease to exist as an independent state.[20] On a more immediate level, a generation of intense socio-political indoctrination had enshrined the preservation of empire as "both a sacred national obligation and the main evidence of the historical accomplishments of the nation."[21] For Portugal's government and the general public alike, the *Ultramar* represented both a national birth right and a collective duty, neither of which could be abandoned voluntarily.[22]

Portugal, however, faced persistent internal challenges indirectly threatening its colonial rule. The state's ultra-conservatism and fiscal stringency incurred crippling costs elsewhere, as investments in education, health services, and rural development were routinely denied for want of a rare surplus.[23] As a result, Portugal in 1960 suffered the highest illiteracy level and the lowest per capita income in Western Europe, as well as worrisome rates of infant mortality and tuberculosis. The official state line may have extolled the glories of empire abroad, but many European Portuguese were living at the subsistence level, and not so long at that with the lowest life expectancy in Europe after Albania and Yugoslavia.[24] Although public restrictions muted civil discontent, dissatisfaction with

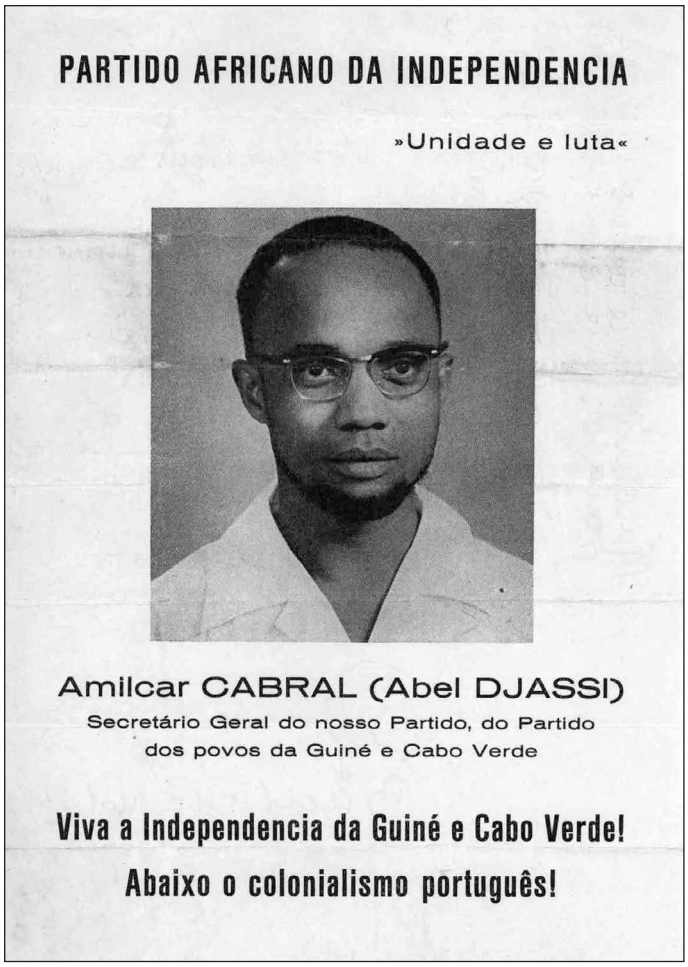
multiple aspects of *Estado Novo* rule led to periodic instances of military rebellion, including an attempted putsch by the Defence Minister in 1961 and a barracks revolt the following New Year. All told, the authoritarian Lisbon regime withstood no fewer than 20 mutinies, attempted coups, and episodes of senior insubordination between the successful military takeovers of 1926 and 1974.[25] Ominously, many of the latter episodes were prompted by incipient opposition to the regime's hardening overseas policy, although the renewed colonial emphasis generally enjoyed overwhelming support among senior military leaders at the time.[26]

Portugal's imperial obstinance made a modicum of economic sense where the untapped resources and protected markets of Angola and Mozambique were concerned, but the same could not be said of Portuguese Guinea.[27] In terms of land area, the territory occupied approximately 36,000 square kilometres – slightly larger than Belgium, and only three percent of Angola's acreage – bounded by 680 kilometres of land frontiers and 350 kilometres of Atlantic coastline.[28] Only a tenth of the land was arable with the rest heavily forested, laying in permanent swampland, or flooded by the high tide and lengthy rainy season. Since the abolition of the Atlantic slave trade the territory had become a net liability on the Portuguese treasury, of interest only to a trio of corporations that wrung a modicum of profit from the cultivation of groundnuts and palm kernels.[29] "If Angola developed as the jewel of the Portuguese empire," one contemporary Portuguese author observed, "Guinea was never more than a scrap of brass."[30]

Portuguese Guinea also compared poorly to Lisbon's other African holdings in terms of population. Based on a 1960 census the province was home to 519,229 persons, of whom 517,120 constituted the indigenous population. European residents, comprising the remaining 2,109 inhabitants, consisted primarily of military personnel and colonial functionaries.[31] While inconsequential in comparison to that in Angola or Mozambique, the European presence still represented more than a hundred-fold increase from 1870, when only 17 Europeans could be counted as residents of Portuguese Guinea. Nonetheless, the territory's 1960 population paled in comparison to the 13 million inhabitants of Angola and Mozambique, which included over a quarter million European settlers.[32] "An artificially defined, small and poor territory with no apparent resources and a reputation for a fearsome climate," was how one historian summarised the province's worth from an imperial perspective.[33]

Despite Guinea's relative insignificance, Salazar's *Estado Novo* remained grimly committed to maintaining its dominion there. However, in the late 1950s the future of the *Ultramar* began to appear less secure than official pronouncements insisted. Portugal's colonial holdings had themselves remained outwardly calm, but bloody revolts against European administration were well underway in Malaya, Kenya, and Algeria, while the French had already been expelled from Indochina.[34] By the end of 1958 the first former European colonies in sub-Saharan Africa achieved their independence, and within two years they would be joined by 10 more.[35] Unhappily for Lisbon, two of them – the Republic of Guinea (Conakry) and Senegal – not only bordered Portuguese Guinea, but were also led by strident African nationalists passionately opposed to Lisbon's imperial interests.[36]

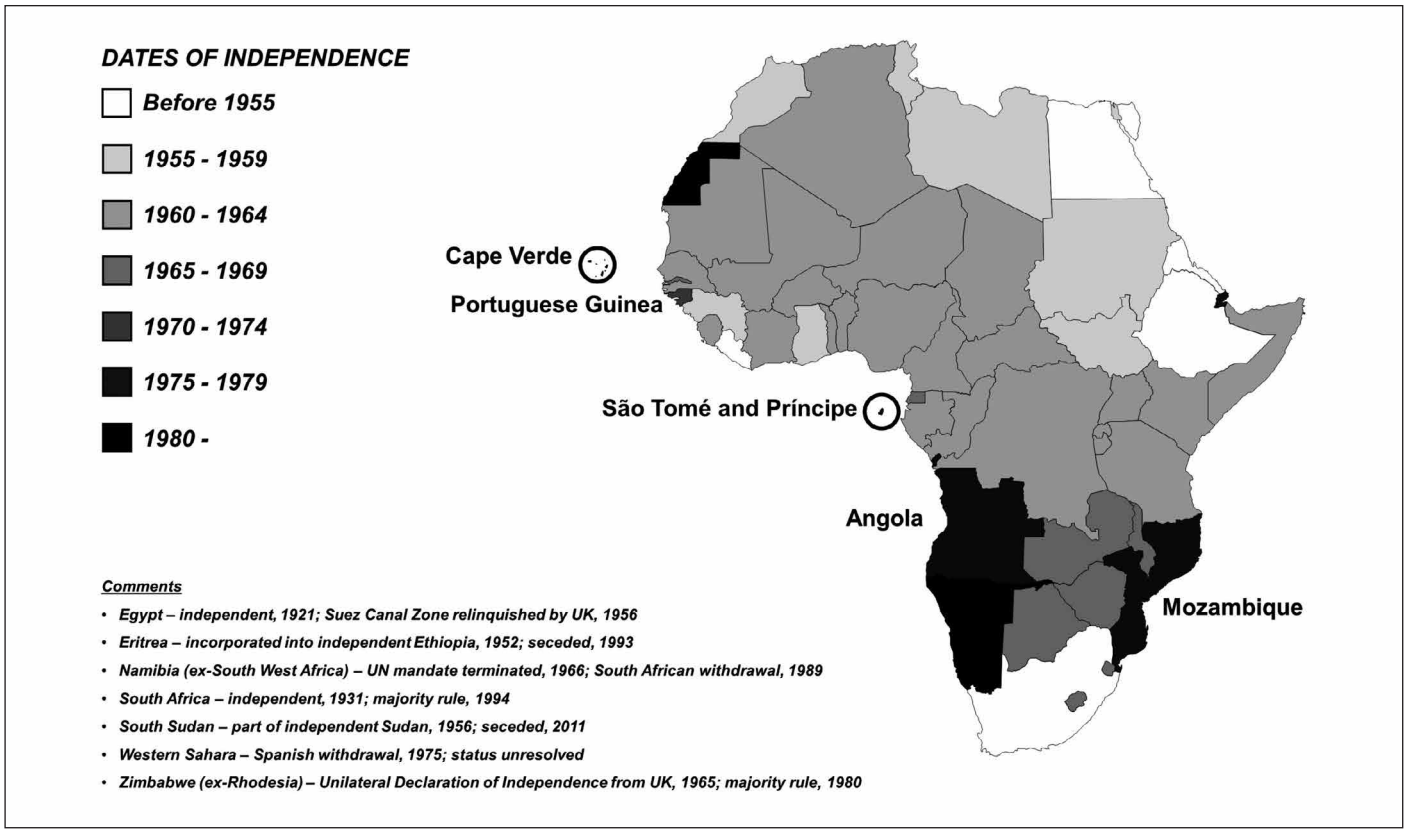
Inspired by the post-Second World War wave of African nationalism, in 1954 a small group of activists in Bissau, the provincial capital of Portuguese Guinea, formed the Movement for the National Independence of Guinea (*Movimento para a Independência Nacional da Guiné*, or MING).[37] Two years later that movement became the


PARTIDO AFRICANO DA INDEPENDENCIA
»Unidade e luta«
Amilcar CABRAL (Abel DJASSI)
Secretário Geral do nosso Partido, do Partido dos povos da Guiné e Cabo Verde
Viva a Independencia da Guiné e Cabo Verde!
Abaixo o colonialismo português!

Pamphlet of the African Independence Party (PAI), entitled "Unity and Struggle," with a portrait of PAI General Secretary Amílcar Cabral, AKA "Abel Djassi". (Albert Grandolini Collection)

Partido Africano da Independencia (PAI), and was again renamed in 1960 as the *Partido Africano da Independência da Guiné e Cabo Verde* (African Party for the Independence of Guinea and Cape Verde, or PAIGC).[38] The group in all its incarnations was led by one of the most dynamic and well-respected figures in the African decolonisation movement, Amílcar Cabral (sometimes known by his *nom de guerre* "Abel Djassi").[39] Born in Cape Verde but raised on the Guinea mainland, Amílcar Cabral had attended university in Lisbon and, after 1945, worked throughout Portuguese Guinea as an agricultural advisor for the colonial administration.[40] As a child he'd witnessed the famine, drought, and abject poverty endemic to Portuguese Africa; returning as an educated adult, he noted with fresh dismay the appalling conditions in which Portugal continued to hold its colonial subjects. These included non-existent medical care for most of the population; a Church-administered educational "system" yielding near-universal illiteracy; and an especially onerous policy of labour conscription for colonial infrastructure projects, sometimes so gruelling and hazardous that worker death rates of 40 percent were reported.[41]

Against this backdrop, Cabral and other leaders of the PAIGC-to-be began to gather clandestinely and formulate their first tentative plans. They had apparent cause for optimism: elsewhere in Africa and around the world, history appeared to be moving in the "right" direction. The Bandung Conference of 1955 had spotlighted the cause of self-determination on a global stage and provided nationalists with an energetic international forum.[42] The following year European colonialism was roundly repulsed at Suez, while Algeria's relentless rebellion shook metropolitan France to

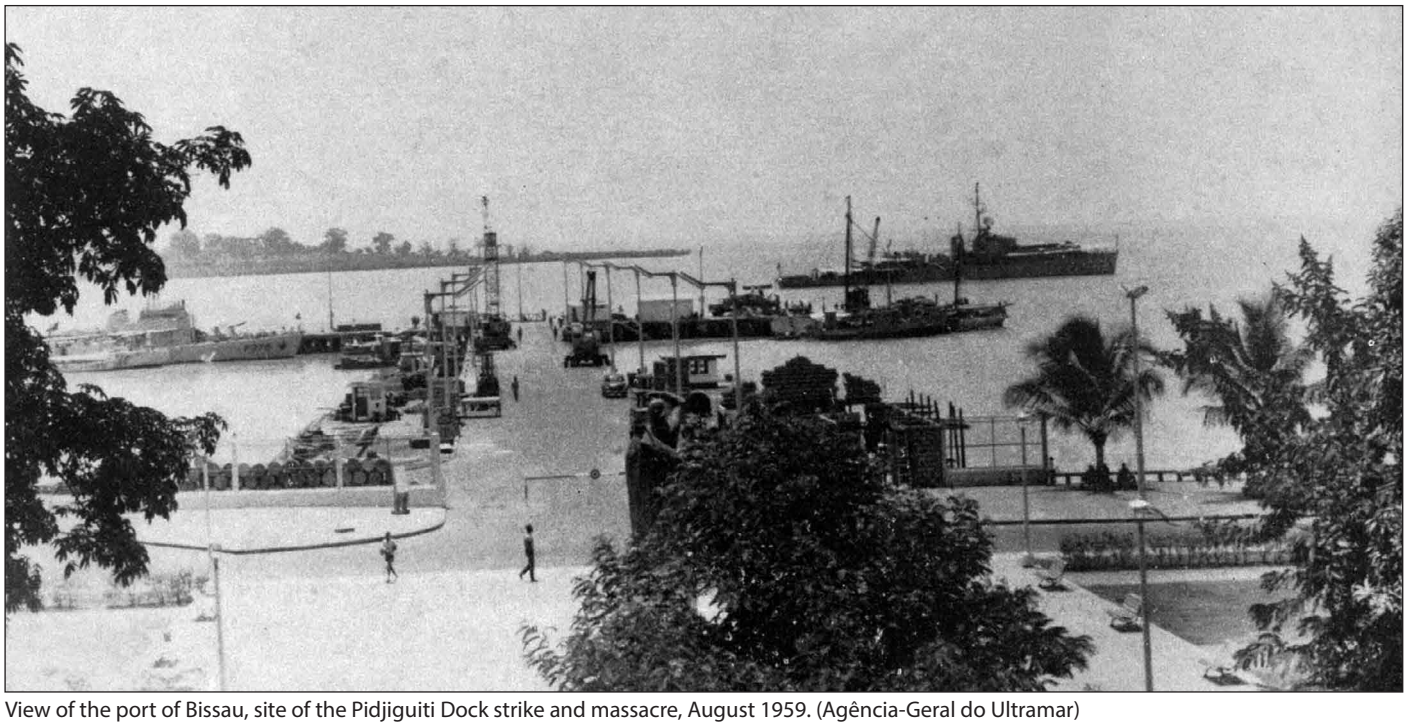

DATES OF INDEPENDENCE
Before 1955
1955 - 1959
1960 - 1964
1965 - 1969
1970 - 1974
1975 - 1979
1980 -
Cape Verde
Portuguese Guinea
São Tomé and Príncipe
Angola
Mozambique
Comments
• Egypt – independent, 1921; Suez Canal Zone relinquished by UK, 1956
• Eritrea – incorporated into independent Ethiopia, 1952; seceded, 1993
• Namibia (ex-South West Africa) – UN mandate terminated, 1966; South African withdrawal, 1989
• South Africa – independent, 1931; majority rule, 1994
• South Sudan – part of independent Sudan, 1956; seceded, 2011
• Western Sahara – Spanish withdrawal, 1975; status unresolved
• Zimbabwe (ex-Rhodesia) – Unilateral Declaration of Independence from UK, 1965; majority rule, 1980

Decolonisation in Africa. (Matthew M. Hurley)

its institutional foundations. Meanwhile, nationalist and similarly "anti-imperialist" causes had begun to receive not only political and economic backing, but military aid from an increasingly assertive Communist Bloc.[43] The cascading internal and global pressures had generated a seemingly irresistible wave of anti-colonialism, and in its wake more than 40 new sovereign states emerged from foreign dominion between 1945 and the end of 1960, 28 of them in Africa. Cabral fully intended his homeland to number among them, and sooner rather than later.

Like other anti-colonial movements of the era, the original PAI first attempted a campaign of protest and political agitation in such "urban" concentrations as Portuguese Guinea possessed. Their efforts culminated in a strike at the Pidjiguiti docks in the provincial capital, Bissau, on 3 August 1959, resulting in a violent Portuguese response that left some 50 dockworkers killed after 20 minutes of one-sided gunfire.[44] The bloody outcome "showed that the course followed until then had been a mistaken one," Cabral later conceded, and had a profound effect on the PAIGC's program.[45]

Meeting six weeks after the massacre, the party leadership decided to redirect its emphasis to the countryside and Portuguese Guinea's rural populace.[46] While the towns remained key arenas for recruiting and agitation, the PAIGC drastically reduced its presence there and



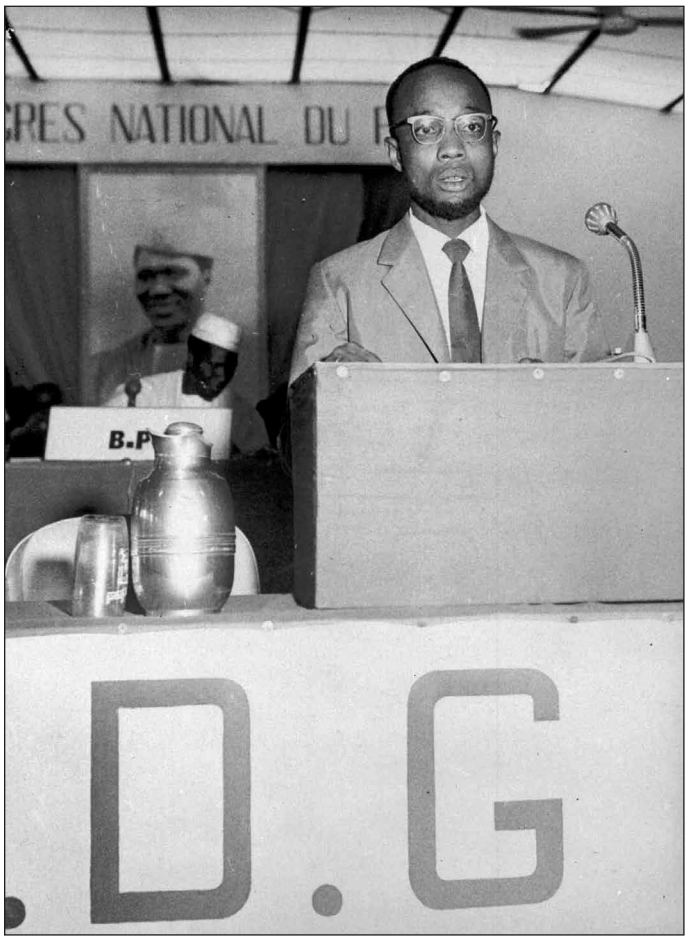
View of the port of Bissau, site of the Pidjiguiti Dock strike and massacre, August 1959. (Agência-Geral do Ultramar)

took its urban activities deeper underground, at the same time launching a long-term program of rural infiltration, political indoctrination, and military development largely out of sight of the Portuguese imperial apparatus.[47] As part of these preparations the PAIGC conceived a strategy intended to minimise their own disadvantages, particularly in combat power, while exploiting Portuguese vulnerabilities.[48] The party's leader would play the central role in these deliberations: in addition to his reputation as "the most original political and revolutionary thinker Africa has produced in modern times," Amílcar Cabral was also considered "an innovative and important military thinker within the context of Africa and the Third World."[49] In the long term, he envisioned five potential phases of conflict development, depending on Portugal's threshold for capitulation:

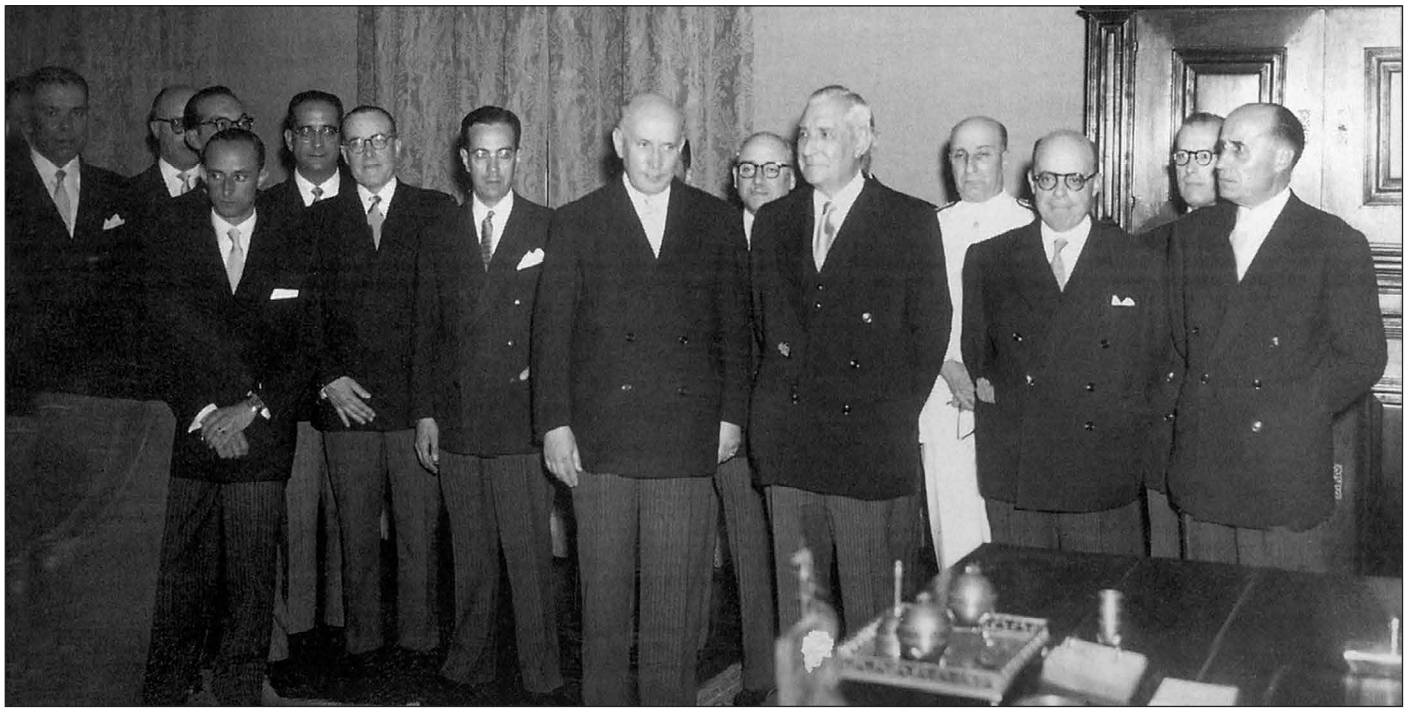
Amílcar Cabral posing with a group of PAIGC militants newly returned from guerrilla training in China. (Albert Grandolini Collection)

1. Preparation – establishment and organisation of policymaking bodies, financial mechanisms, administrative structures, and instruments of popular mobilisation;
2. Agitation – creation of a subversive atmosphere, including not only the Pidjiguiti dock strike, but also sabotage operations and propaganda activities;
3. Guerrilla warfare and/or terrorism;
4. Subversion – "the emergence of two new realities: the 'liberated zone', that is to say the part of the territory where control is permanently exercised by the liberation movement… and the regular forces, the 'army of liberation';"
5. Conventional (or "manoeuvre") warfare – force-on-force operations intended to overwhelm or annihilate any remaining armed government opposition.[50]

Cabral and his senior commanders accordingly authored a "centrifugal strategy" reliant on relatively secure base areas in both rural Guinea and friendly neighbouring states, such as Guinea-Conakry, governed by Sékou Touré. From those, the PAIGC planned to gradually erode Portuguese presence and authority, steadily applying pressure and extending insurgent control while isolating Portuguese-held towns and garrisons.[51] With sufficient rural support the PAIGC could then continually harass and attrit Portuguese forces, but Cabral initially directed his militants to avoid direct confrontations or frontal assaults against their better-armed Portuguese opponents.[52] This inevitably meant a prolonged, incremental effort lasting years, if not decades, but the embryonic insurgent movement recognised its best odds for eventual success lay in exhausting Lisbon in an increasingly intolerable war of attrition. "We shouldn't put the problem on an 'all or nothing' basis," Cabral reiterated throughout his campaign. "We must organise things for a continuous and prolonged action that, if the enemy resists, wears him out and then liquidates him."[53] Cabral likely refined the outlines of his military strategy during a 1960 visit to the People's Republic of China, during which he received direct exposure to the Maoist stratagems of protracted warfare and "surrounding the cities with the countryside."[54] Although exceptions would occur – some successful, others catastrophic – the gradual, rural-centric strategy



Amílcar Cabral speaking at the National Congress of the Democratic Party of Guinea-Conakry (PDG) in December 1962. In the background is Sékou Touré, one of the PAIGC's most important benefactors. (Albert Grandolini Collection)



Salazar with the President of the Republic, Américo Tomás, and members of the Government in 1958. Next to Salazar is Botelho Moniz, Minister of Defence (second from the right), who in 1961 tried to change the regime by removing Salazar, but ended up failing the coup being exonerated by the dictator himself. (DN)

adopted by the PAIGC during these pivotal early years guided their operations throughout the conflict.[55]

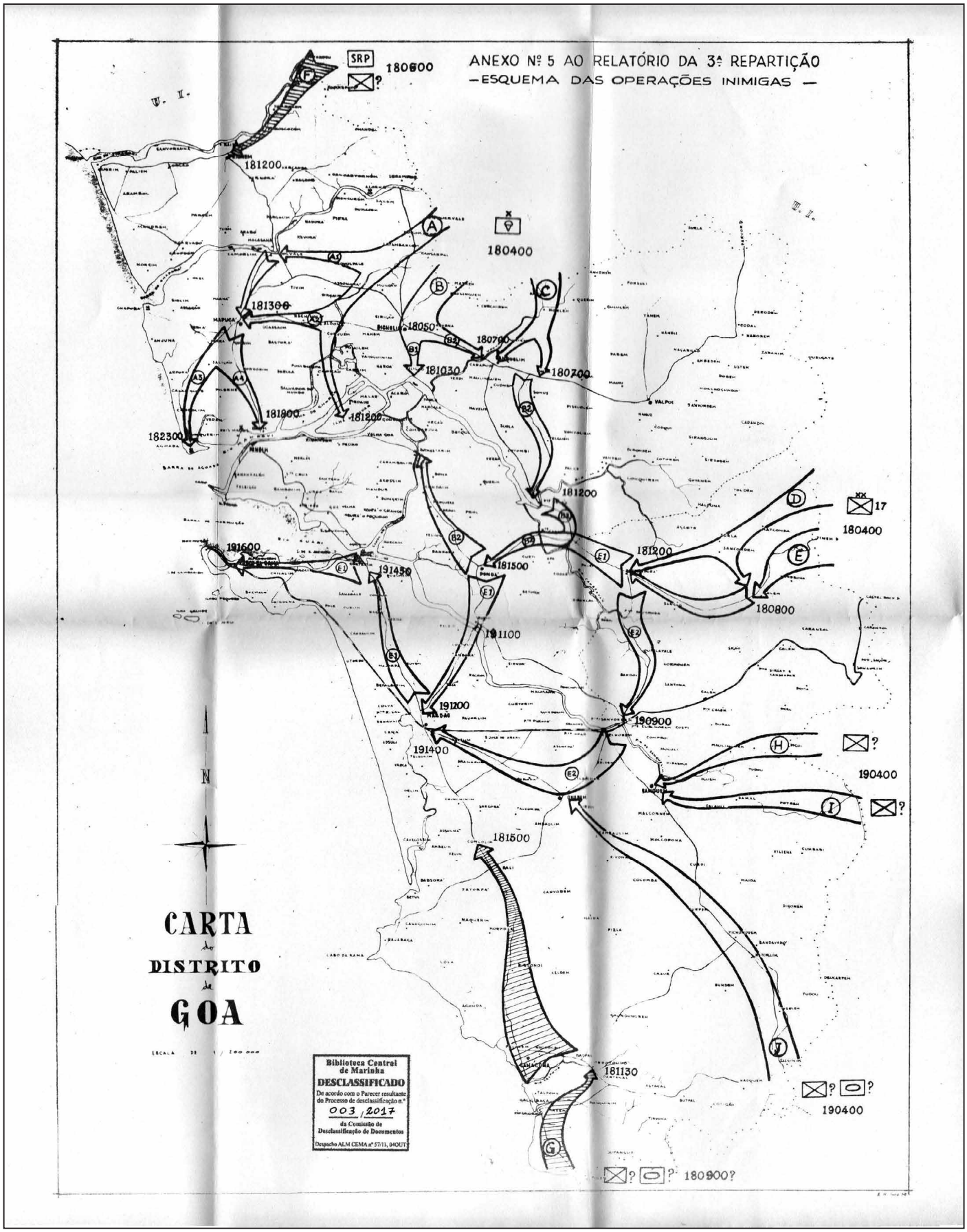
The same year Cabral made that first trip to China, British Prime Minister Harold MacMillan delivered his historic "Wind of Change" speech before the South African parliament in Cape Town. "The wind of change is blowing through this continent, and, whether we like it or not, this growth of national consciousness is a political fact," MacMillan insisted before a transparently hostile audience. "We must all accept it as a fact, and our national policies must take account of it."[56] MacMillan's address established Britain's policy vis-à-vis African decolonisation and echoed France's ongoing exit from empire, garnering private condemnation from Portuguese officials.[57] Publicly, Lisbon reaffirmed its inflexible overseas line later that year by decreeing yet another historical commemoration and erecting a colossal monument to its overseas exploits in symbolic defiance of the shifting geopolitical climate.[58]

Just months later, Portugal faced the first direct challenge to its African rule in a generation. In February 1961 an armed uprising engulfed northern Angola as 5,000 UPA (*União dos Povos de Angola*) militants indiscriminately attacked population centres, settler farms, trading posts, and government facilities. Within weeks some 20,000 people, including a thousand European settlers, had been indiscriminately slaughtered, many of them mutilated in death and some reportedly cannibalised by the marauding rebels.[59] These events evoked universal horror and outrage in Portugal, prompting the official government response of "To Angola, quickly and in force!" (*Para Angola, rapidamente e em força!*) and formally initiating 14 years of Portuguese colonial warfare on the continent.[60]

Salazar's increasingly inflexible attitude hardened further when domestic opposition to his imperial policies began to threaten his own position. Opposed to the notion of a prolonged and costly overseas war, Defence Minister General Botelho Moniz attempted to overthrow Salazar in April by mobilising disaffected regime elites against him. However, President Américo Tomás – one of the figures Botelho Moniz attempted to enlist – chose instead to warn Salazar, who pre-empted the palace coup by summarily dismissing Botelho Moniz and other recalcitrant officials. Following the abortive revolt, Salazar assumed the position and duties of Defence Minister himself and retained them until the end of 1962. Having halted the immediate threat to his rule while augmenting his official powers, Salazar was now free to dispatch a substantial expeditionary force to Angola in hopes of both salvaging his cherished empire abroad and securing his long-term political standing at home.[61]

Portugal's second theatre of "colonial revolt" was much more contained and active for less than a day. On 1 August 1961, troops of the newly independent Republic of Dahomey (today Benin) forcibly entered the Portuguese fort of São João Baptista de Ajudá, at the time the smallest recognised geopolitical unit in the world. Following a half-hearted attempt to torch the facility, the last two Portuguese residents were escorted under arms to the Nigerian border, unceremoniously ending nearly 500 years of Portuguese presence in the former "Slave Coast."[62] From Lisbon's perspective the loss was wholly symbolic but no less traumatic for that, as it represented Portugal's first surrender of African territory since the eighteenth century.

Portuguese prestige suffered a much more serious blow at year's end when Indian forces overran Lisbon's remaining possessions on the Subcontinent. The enclaves of Goa, Damão, and Diu – collectively ruled by Portugal since the sixteenth century as the "State of India" (*Estado da Índia*) – fell within 40 hours of the initial Indian military assault on 18 December 1961.[63] The rapid capitulation of the outnumbered and outgunned garrison shocked a Portuguese public conditioned by the *Estado Novo*'s insistence that their armed forces would "fight to the last man to defend all Portuguese territory and…that as long as the Salazar regime stayed in power the territorial integrity of the Portuguese State would remain intact."[64] Portuguese in all sectors of society were particularly dismayed when official reports of heroic resistance against insurmountable odds were supplanted by the inglorious reality: Portuguese defenders had suffered only 30 dead and 57 wounded, while over 3,000 surrendered to Indian forces.[65] The humiliating finale to Portugal's centuries-old Indian enterprise prompted Salazar to weep openly in



Sketch of Indian forces' operations during the invasion and occupation of Goa, December 1961. (Navy Historical Archive)

a televised address to the nation; the debacle, he told the National Assembly, represented "one of the greatest disasters in our history."[66] Determined to prevent future reverses elsewhere, Salazar and the *Estado Novo* regime resolved to maintain their hold over Portugal's remaining overseas territories at all cost.

By this time the Portuguese government, and in particular its armed forces, had already been some years preparing for the

Salazar with NATO Secretary Dirk Stikker in Lisbon, 1961. Also visible at the right (with cigarette in hand) is the Portuguese Minister of Foreign Affairs, Franco Nogueira. Portugal's proposals to extend the "NATO Area" to the South Atlantic was never accepted by other alliance members. (Photography Archive of Lisbon – Portuguese Photography Centre)

increasing likelihood of colonial unrest, particularly in Africa. Developments on the restive continent had inevitably prompted a review of Portugal's strategic priorities, placing the *Estado Novo* in an intractable policy conundrum: while Portugal's status as a founding NATO member placed it at the centre of Western defence against the "red monsoon" of international communism, Portugal's NATO allies, either dulled by apathy or blinded by naivete, refused to recognise decolonisation as a direct route to communist influence, if not outright control. "The calm that we are enjoying in Africa precedes an approaching storm," a Portuguese military assessment cautioned in 1958, "a great battle of the Cold War or, who knows, even a decisive battle on the part of Western civilization."[67] But instead of joining Portugal in the fight against obvious and ongoing communist subversion in Africa, NATO wanted American-style divisions and jet fighter squadrons ready for a hypothetical European war; since Portugal lacked the resources to fulfil both its alliance commitments and *Ultramar* obligations, one would have to take priority.[68] The *Estado Novo* chose the latter, afterwards justifying its strategic reorientation by insisting "Portugal carried alone the tremendous expenses of its fight in the defence of the West in Africa."[69]

Portuguese airpower planning also began to reflect the regime's changing priorities. In May 1957 Portugal's Undersecretary of State for Air, Kaúlza de Arriaga, ordered the Portuguese air force to prepare for deployment to Africa, an episode later recalled as marking the FAP's institutional pivot from European defence under NATO's aegis to the looming prospect of war in the *Ultramar*.[70] "It is overseas that the biggest fight will be joined, because this is where the power and the true greatness of Portugal resides," Arriaga proclaimed in his 1957 directive. "It is to this that she must turn resolutely and courageously." Accordingly, the FAP in 1958 dispatched the first of several fact-finding missions to determine infrastructure and organisational requirements in the African territories, which had "a decisive impact" on subsequent air operations there.[71]

The following year, 1959, Portugal's Supreme Council of National Defence implemented three recommendations which cemented Lisbon's strategic reorientation. First, the Supreme Council agreed to scrupulously avoid any new NATO commitments requiring additional Portuguese funding. Second, it approved plans to reallocate personnel and resources from units earmarked for the wartime defence of France and Spain, leaving those formations understaffed and underequipped. Finally, it resolved to "increase to the extent possible the *Ultramar* defence effort," first in Portuguese Guinea given the prominence of hostile nationalist leaders in neighbouring Guinea-Conakry and Senegal.[72] On 25 November 1960 the Defence Council formally transferred Portugal's defence emphasis and planning priorities to its own overseas possessions, while correspondingly reducing Portuguese commitments to NATO and Spain for Ibero-Atlantic defence.[73]

Government spending, the truest barometer of political resolve, also reflected these new policy priorities. The 1961 national budget nearly doubled defence and security spending from 859.1 million to 1,670.6 million escudos ($58.5 million), with the largest single increase dedicated to "extraordinary military forces in the *Ultramar*." In fact, funding for those forces more than tripled from 280 to 950 million escudos, absorbing better than half of Portugal's defence allocation for the year. The "extraordinary" defence outlays increased the annual budget deficit by nearly two-thirds, and compelled Portugal to seek foreign credits for the first time in decades.[74] To Salazar, who "made a fetish of balanced budgets," such deficit spending was anathema in practice as well as to his personal political philosophy: his rigid control over the public purse, while retarding social and economic progress, appealed to the traditionalist military elites that had installed his *Estado Novo*

Portugal's Undersecretary of State for Air, Kaúlza de Arriaga. (Air Force Historical Archive)

in the first place. A return to chronic deficits and state bankruptcy, on the other hand, could imperil his cordial relations with Portugal's premier institutional powerbroker.[75]

In this case military necessity drove the increased expenditure, and the armed forces' leadership generally approved of the government's renewed imperial zeal. Regarding Portuguese Guinea, the regime's initial overseas priority, the *Forças Armada's* fundamental mission involved two complimentary goals: first, "to maintain order and peace in that territory;" and second, "to guarantee, at all costs, the maintenance of our sovereignty" there. The primary expected threat derived from internal subversion characterised by "terrorist" activities, aided by external sources of sanctuary and support.[76] To combat the anticipated challenges the Portuguese general staff in 1958 articulated three immediate priorities:

- Formation of an effective intelligence apparatus, sufficient for both internal policing and border surveillance;
- Deployment of security forces throughout the territory, especially along the borders and at strategic points (major towns, economic assets, road junctions, or river confluences); and
- Establishment of close civil-military cooperation.[77]

To facilitate the third objective provincial governor António Peixoto Correia assumed personal command of all Portuguese military forces in Guinea, which at the time numbered just two companies of infantry supported by a lone artillery battery. The Portuguese general staff recommended the immediate reinforcement of those units, dispatching the first contingents in a force that would number over 32,000 within 15 years[78] – among them a small cadre of airmen, paratroopers, and support personnel who would wage the most intense air campaign in Portugal's history.[79]

2
Planes of the Cross of Christ

The planes of the Cross of Christ fly in whatever place and in all circumstances required for the defence of Portugal. The planes of the Cross of Christ have a glorious past, and the men who proudly carry it to the heights today are of the same temper as those who, in more remote epochs, made the Air Force the pride of the Portuguese.[1]

Portuguese military aviation experienced a period of radical transformation in the years preceding the outbreak of the *Ultramar* wars. The *Força Aérea Portuguesa* (FAP) was formally established on 1 July 1952, assuming the functions and the resources of the Portuguese army and naval aviation branches (the *Serviço Aeronáutico Militar* and *Serviço de Aviação da Armada*, respectively).[2] From the army, the new service acquired the aircraft assigned to five operational airfields as well as those assigned to the *Comando-Geral do Aeronáutico Militar* (CGAM) – nearly three hundred planes in all.

The FAP also took over the air fleet and facilities formerly operated by the Portuguese navy. Naval aircraft now under air force control included 12 Second World War-surplus Grumman G-44 Widgeon amphibious aircraft for maritime rescue, six North American SNJ-4 (T-6 Texan) combat trainers, and a dozen Curtiss SB2C-5 Helldiver carrier dive bombers pressed into anti-submarine service from land bases. Portuguese naval aviation had also maintained small numbers of Airspeed Oxfords and Beechcraft Model 18 variants for liaison, multi-engine training, and light transport duties. Although most naval aviation units were based in Lisbon, the *Escola de Aviação Naval* operated a fleet of Tiger Moth basic flight trainers at Aveiro.[4]

Upon its foundation the *Força Aérea Portuguesa* inherited a total of 375 fixed-wing, piston-engined aircraft from its predecessors, initially deployed across five air bases retained by the new service. These included *Base Aérea* n.º 1 (Air Base no. 1 or BA1) at Sintra, the FAP's primary flight training centre; BA2 at Ota, home to a Spitfire fighter group and a Junkers JU-52 transport squadron; BA3 at Tancos, with a group of Hurricanes for air defence and a Westland Lysander squadron for liaison and reconnaissance; and BA4 at Lajes in the Azores archipelago, where FAP SB-17Gs and Grumman SA-16A Albatross maritime search and rescue planes shared facilities with U.S. Air Force aircraft. The new service also assumed control of the *Grupo Independente de Aviação de Caça* (Independent Fighter Aviation Group, abbreviated GIAC) and its two Hurricane fighter squadrons at the Espinho aerodrome, while the naval air facility at Montijo became BA6 and retained its maritime patrol and anti-submarine mission. Under air force stewardship the naval aviation school at Aveiro was initially redesignated BA5-São Jacinto in 1957, then again renamed BA7 in 1959, assuming its new role as the FAP's primary maritime patrol base. Also that year a new *Base Aérea 5* opened at Monte Real, beginning its tenure as Portugal's premier jet fighter facility.[6]

The FAP was handicapped from the beginning by obsolete equipment obtained from wildly disparate sources, which were

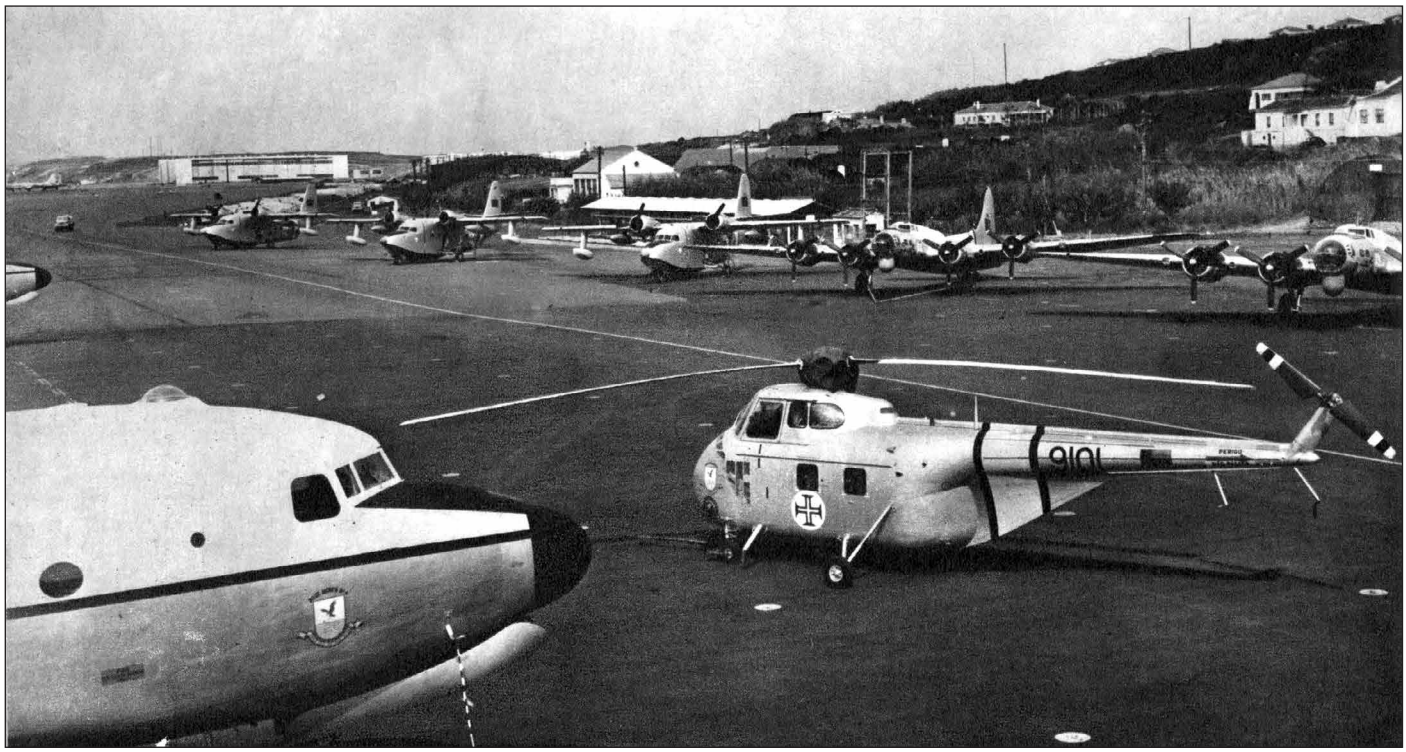
Table 3: Serviço Aeronáutico Militar, 1951[3]

Aircraft	BA1 Sintra	BA2 Ota	BA3 Tancos	BA4 Lajes	GIAC Espinho	CGAM	TOTAL
Hurricane	22	-	56	-	25	-	103
Spitfire	-	76	-	-	-	-	76
T-6 Texan/Harvard	17	4	3	-	2	-	26
Westland Lysander	-	-	8	-	-	-	8
Tiger Moth	49	-	-	-	-	-	49
Airspeed Oxford	4	-	-	-	-	-	4
Avro Anson	3	1	1	-	2	2	9
Junkers JU-52	-	10	-	-	-	-	10
Douglas C-54	-	-	-	3	-	-	3
Boeing SB-17FG	-	-	-	5	-	-	5
Douglas C-47	-	-	-	-	-	1	1

Table 4: Serviço Aviação Naval, 1952[5]

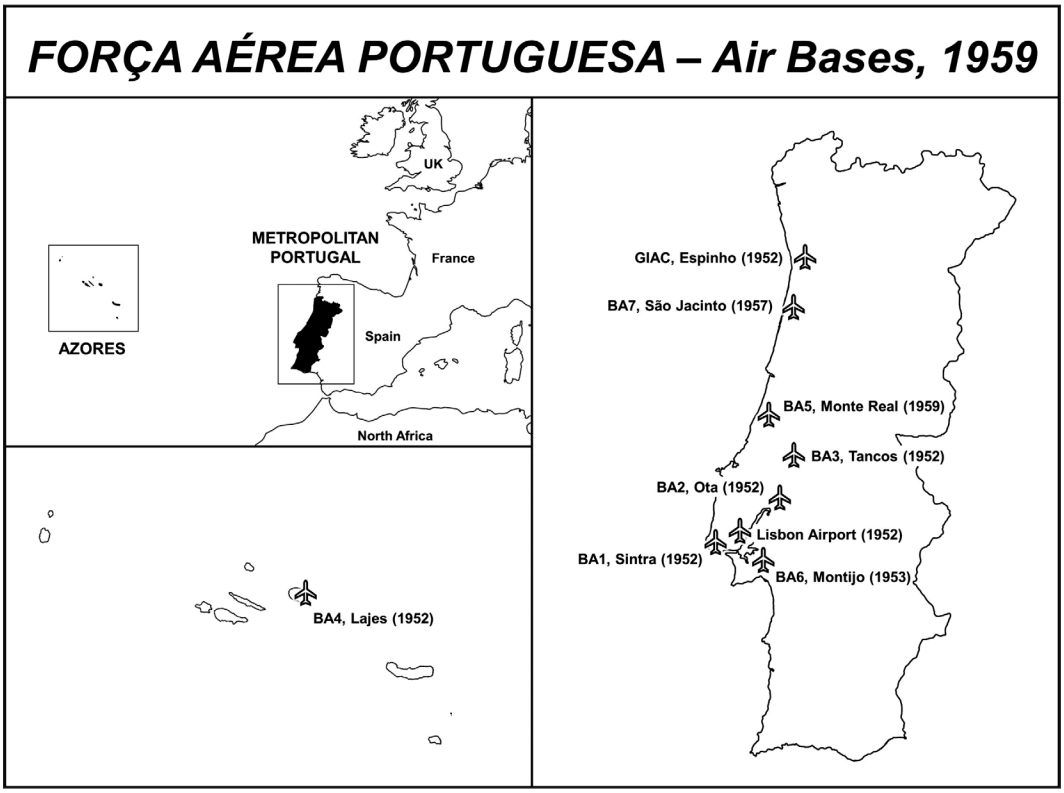
Aircraft	Centro de Aviação Naval, Lisbon	Escola de Aviação Naval, Aveiro
SB2C-5 Helldiver	12	-
G-44 Widgeon	12	-
SNJ-4 Texan	6	-
Airspeed Oxford	6	-
Beechcraft D-18S	12	-
AT-11 Kansan		
De Havilland Tiger Moth	-	30

clearly insufficient to the requirements of modern air warfare by even 1952 standards. The new service's personnel also lacked meaningful wartime experience, despite the recent conclusion of history's largest aerial conflict. Only a handful of Portuguese airmen had flown combat missions as volunteers during the Second World War or the preceding Spanish Civil War; the First World War service of a few dozen Portuguese aviators in France and Africa had long since lost all operational relevance.[7] However, as a founding NATO member Portugal gained access to new sources of material and training.[8] The FAP's first jet-powered aircraft – a pair of British de Havilland Vampire T.55 trainers – arrived in September 1952, heralding an important step in the evolution of Portuguese aviation. In January 1953 the first of more than a hundred new-build Republic F-84G Thunderjet fighter-bombers were delivered under the U.S. Mutual Defense Assistance Program (MDAP), bringing the FAP wholly into the jet age and dramatically expanding its offensive potential.[9] Initially assigned to two squadrons (Esq. 20 and Esq. 21) at BA2-Ota, the FAP F-84 fleet would later see extensive wartime service in Angola and Mozambique. Fifteen Lockheed T-33A Shooting Star (or "T-Bird") jet trainers also entered service at Ota in 1954, but these were transferred to BA3-Tancos in 1957 to form the *Esquadra de Instrução Complementar*



The flightline at BA4, Lajes (the Azores) in the mid-1950s. Both FAP and USAF aircraft were permanently assigned to this installation. (Historical Archive of the Air Force)

A Hawker Hurricane at BA1, Sintra. Portugal still had some of these Battle of Britain-era fighters in service when the FAP was created in 1952. (Conceição e Silva Collection)



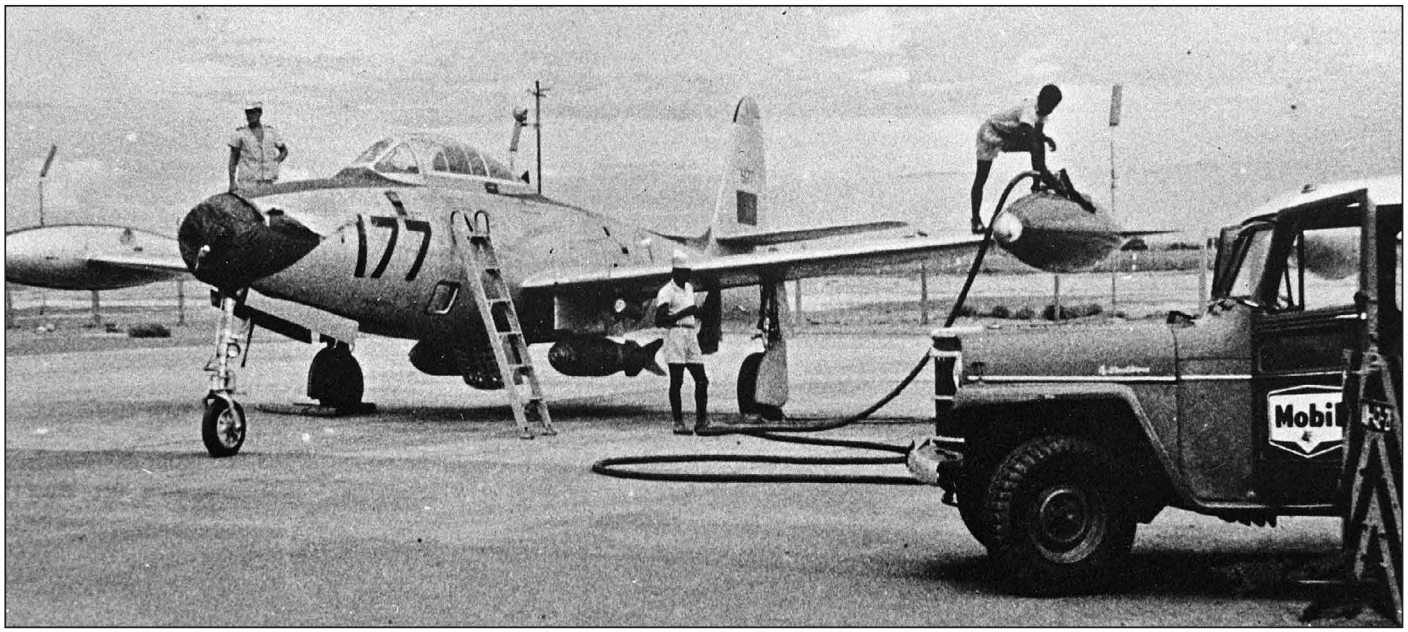
FAP bases, 1952–1959. (Matthew M. Hurley)

de Pilotagem em Aviões de Combate (Supplementary Combat Pilot Training Squadron, or EICPAC).[10]

In 1954 the FAP received its first helicopter in the form of a Sikorsky UH-19 Chickasaw, and 65 North American F-86F Sabres were transferred to the FAP from U.S. and Norwegian stocks in 1958, introducing the finest all-around fighter to be flown in Portuguese service for decades to come.[11] These acquisitions were among $347.8 million in grant aid and excess inventory delivered by the United States between 1951 and 1963, a dollar value representing more than a quarter of Portugal's defence outlays during this period.[12] The influx of new equipment and multinational influences made the 1950s a "golden age" for the FAP, from 1953–1955 under the stewardship of Portugal's Undersecretary of State for Air, Kaúlza Oliveira de Arriaga.[13] While overseeing the sweeping material and organisational changes affecting the new service, de Arriaga also created the Portuguese airborne forces, the *Batalhão de Caçadores Paraquedistas* (Parachute Infantry Battalion), and ensured their subordination under FAP command.[14]

However, and despite its new acquisitions and institutional improvements, it was evident the FAP lagged behind its NATO counterparts as the 1950s ended. While most allied air forces had begun to fly supersonic combat aircraft (some outfitted with radar and missiles), Portugal had only just received the Korean War-era F-86F as its primary fighter. They would nonetheless be pressed into wartime service over Africa, as were the even more venerable F-84Gs, long since retired from active U.S. service and nearing the end of their useful life. The F-84G's case was emblematic of the resource limitations that would plague the FAP throughout the course of its African campaigns. The straight-winged "Thunderjet" had been virtually standard equipment for NATO air forces during the previous decade, but by 1960 the only alliance members still flying the type in frontline combat service were Portugal and Turkey.[16] The FAP had in fact been preparing to retire the F-84G in 1961, its remaining examples relegated to fighter jet transition training at BA2-Ota. With the outbreak of war in Angola that February, however, the FAP was forced to shelve its retirement plans and rush 25 Thunderjets to the expanding Portuguese air base at Luanda, where they formed *Esquadra 93* ("Os Magníficos").[17] First

One of the de Havilland Vampire T.55 trainers delivered to Portugal. The two jets arrived in late 1952 and were assigned FAP serial numbers 5081 and 5082 (Conceição e Silva Collection)



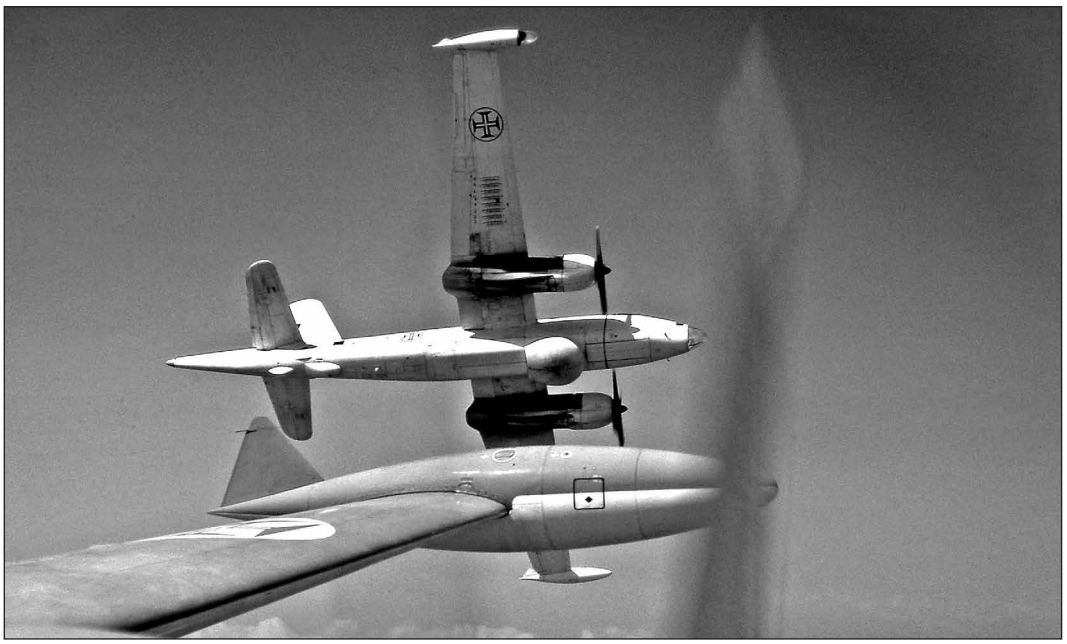
A Republic F-84G Thunderjet in Luanda being fuelled. (Conceição e Silva Collection)

The F-86F Sabre enjoyed a long and distinguished career in the FAP, flying in frontline Portuguese service from 1958 to 1980. (Historical Archive of the Air Force)

Table 5: FAP Flying Units, 1961[15]			
Role	**Aircraft**	**Units**	**Location**
Fighter	F-86F Sabre F-86F Sabre	Esq. 51 "Falcões" Esq. 52 "Galos"	BA5 (Monte Real)
Maritime Patrol, Anti-Submarine	P2V-5 Neptune PV-2 Harpoon	Esq. 61	BA6 (Montijo)
Search and Rescue	SC-54D Searchmaster SA-16 Albatross	Esq. 41	BA4 (Lajes)
Training	T-33 T-Bird, F-84G Thunderjet C-47 Skytrain, C-54 Skymaster T-6G Texan DHC-1 Chipmunk	EICPAC EICAP EIBP EIEP	BA2 (Ota) BA4 (Lajes) BA1 (Sintra) BA7 (São Jacinto)
Airlift	C-54 Skymaster Douglas DC-6 N-2502 Noratlas	Esq. 81 2 TAM *Esq. de Trans. Méd.*	Lisbon BA6 (Montijo) BA2 (Ota)

arriving in June 1961, the Angola F-84G contingent represented the first operational deployment of Portuguese military aircraft to Africa since the period immediately following the First World War.[18]

The outbreak of Portugal's overseas wars compelled the FAP to not only employ second-line or frankly obsolete equipment, but to adapt its existing aircraft to operational needs. The Second World War-era PV-2 Harpoon was dispatched to Africa to fight guerrillas instead of submarines, as was its successor in Portuguese service, the P2V-5 Neptune. Various models of the North American T-6 Texan family of piston-engined trainer aircraft were indigenously retrofitted to carry a variety of offensive weaponry, establishing a precedent for in-country modifications to meet operational requirements. As the 1960s progressed the FAP attempted to improve its capabilities through the acquisition of new aircraft and the adaptation of existing assets, but remained saddled with a makeshift fleet of largely obsolescent aircraft for the duration of the *Ultramar* wars. For operations in Portuguese Guinea, the FAP employed platforms at various stages of the campaign as detailed in Table 6.



P2V-5 in flight between Sal Island (Cape Verde) and Guinea. The FAP used these aircraft extensively throughout Portuguese Africa. (Conceição e Silva Collection)

F-86 Sabre

The North American F-86 Sabre was almost certainly the most successful Western fighter of the post-1945 era. With nearly 10,000 examples produced in all variants, the Sabre was a fighter pilot's favourite from its 1948 debut to its combat coda more than three decades later. Pilots praised the aircraft's handling and agility from the start, variously describing its flying qualities as "delightful," "exhilarating," and "vice-free."[20] Beginning in 1950 the F-86 forged an impressive combat record, first in the skies of Korea, where it was decisive in wresting air superiority from the Soviet-built MiG-15.[21] The Sabre reinforced its reputation

Three F-84s from 93 Squadron "Os Magníficos" in Luanda, with a PV-2 Harpoon visible in the background. (Conceição e Silva Collection)

Table 6: Fighter/Attack Aircraft [19]			
	F-86 Sabre	**G.91**	**T-6 Texan/Harvard**
Origin	United States	Italy	United States
Manufacturer	North American	Fiat	North American
First flight	1947 (XP-86)	1956	1938 (NA-49)
Max speed	650mph	650mph	205mph
Cruise speed	540mph	403mph	170mph
Combat radius	400 miles	380 miles	750 miles
Armament	6 x 0.50-cal guns; 4,000lbs. bombs or rockets	4 x 12.7mm guns; 1,500lbs. bombs or rockets	2-3 x 0.30-cal guns; up to 600lbs. bombs or rockets

as a dogfighter during the 1958 Taiwan Strait Crisis, during which the F-86F variant achieved a decisive margin of victory over the newer MiG-17.[22] Even into its third decade of active service, the Sabre scored an appreciable tally against Indian aircraft during that nation's 1965 and 1971 wars with Pakistan. The F-86 finished its combat career as a ground attack aircraft, firing its last shots in anger during a 1985 border skirmish between Honduran and Nicaraguan forces.[23] The final four operational Sabres, all F-86F models, were finally retired from the *Fuerza Aerea Boliviana* in 1994.[24]

Portugal flew the F-86F from 1958 to 1980, having acquired 65 second-hand examples from the United States and Norway. The first to arrive were assigned to 50 Squadron (later renumbered 51 Squadron), *Os Falcões* ("the Falcons"), at Monte Real air base.[25] These aircraft were delivered as part of NATO's rearmament program and intended for use in the "NATO Area," which excluded all of Portugal's territories in Africa and Asia.[26] Portugal's use of these and other NATO acquisitions in its African territories would cause Lisbon considerable diplomatic discomfort throughout its *Ultramar* wars.

T-6 Texan / Harvard

Hundreds of thousands of U.S. and Allied airmen learned to fly on North American T-6s (called the SNJ in U.S. Navy service, and the Harvard by the UK) during the Second World War. Originally designed and fielded as a trainer, the type was adapted to perform combat roles such as fire support, armed reconnaissance, forward air control, and – on at least two occasions (an Australian Wirraway model during the Second World War, and a Syrian T-6 in 1948) – air-to-air combat. Over 17,000 examples of all variants were produced in the U.S. and under license abroad, serving with the armed forces of 55 nations and flying combat missions in some 40 wars, border clashes, rebellions, and other armed incidents.[27] As of 2018, an estimated 500 were still flying worldwide.[28] The FAP received a total of 251 T-6s, in seven models, from five nations between 1947 and 1970, sometimes jokingly referring to the type as the "F-110" since the recommend airspeed for climbing, cruising, and descending all approximated 110 KIAS.[29] In addition to flight training they served in light attack, armed reconnaissance, and close support roles, with the last of them being retired in 1978.[30]

G.91-R4

The Fiat G.91 began with a 1952 NATO requirement for a standard "Light Weight Strike Fighter" to equip multiple Alliance air forces in the ground support and strike reconnaissance roles. However, only two NATO nations – Italy and Germany – accepted the G.91 into service when the 1958 contract was awarded, with three other intended users (France, Greece, and Turkey) declining the winning Italian design.[31] In 1966, frustrated in its attempts to acquire new combat aircraft from the United States and Great Britain, Portugal turned to Germany for 40 excess G.91-R4 variants.[32] The machine gun-equipped R4 model carried less powerful gun armament than the cannon-armed G.91-R3, but could still deliver a potent combination of bombs and rockets in a rugged, easily maintained package able to absorb significant battle damage.[33] Its firepower,

Portugal's F-86s were based in Monte Real, where they equipped 51 Squadron, "Os Falcões". (Historical Archive of the Air Force)

Despite its slow speed and comparative vulnerability, the T-6 was widely used to support Portuguese troops operating in Africa. (Conceição e Silva Collection)

minimum field maintenance requirements, and ability to take off or land on less than 2,000 feet of grass even drew the attention of the U.S. Army, which evaluated the type as a close air support aircraft in 1961-1962.[34] The last of the "Ginas," G.91T trainer variants serving in the Italian *Aeronautica Militare*, were withdrawn in 1995, two years after Portugal retired its remaining "*porquinhos*."[35]

Table 7: Bomber/Maritime Patrol Aircraft[36]

	P2V-5 Neptune	B-26 Invader
Origin	United States	United States
Manufacturer	Lockheed	Douglas
First flight	1945 (XP2V-1)	1942 (XA-26)
Max speed	300mph	355mph
Cruise speed	180mph	265mph
Combat range	2,775 miles	1,400 miles
Armament	8 x 20mm cannons; up to 12,000lbs. of bombs, rockets, or mines	8 x 0.50-cal guns; 4,100lbs. of bombs or rockets

P2V-5 Neptune

Portugal acquired 12 U.S.-built P2V-5 Neptune maritime patrol aircraft second-hand from the Netherlands in 1960. Originally intended for ocean surveillance and anti-submarine warfare, the Second World War-era design and its 12 weapons hardpoints were easily adapted to air-to-ground missions, although the lack of a precision aiming system limited the Neptune's land attack utility to area bombing.[37] Still, it could carry up to six tons of bombs, rockets, torpedoes, or depth charges – a larger payload than any other aircraft in the FAP's inventory – and the P2V could carry its full weapons load further than any other Portuguese plane. While crew accommodations were crowded and at times uncomfortable, the Neptune was easy to fly over those long distances and agreeably stable at altitude.[38]

The P2V family of aircraft saw notable combat, although never in the grand oceanic campaigns for which it was designed. Specially-configured Neptunes were used extensively for Cold War intelligence-gathering during the 1950s and early 1960s, and at least eight were attacked by Soviet and Chinese forces, resulting in the loss of four.[39] A further two American examples were shot down over Laos while deploying sensors along the Ho Chi Minh Trail during

Portugal acquired the Fiat G.91 specifically for use in Africa. It was the most capable fighter-bomber the FAP used during the war, and was employed in all three African theatres. (Historical Archive of the Air Force)

The P2V-5 featured a long operating range and could carry its full weapons load further than any other Portuguese aircraft. (Conceição e Silva Collection)

the Vietnam War.[40] Perhaps the type's most sensational action took place during the 1982 Falklands War, when an Argentinian Neptune participated in the sinking of the British destroyer HMS *Sheffield*.[41] By that time the last P2V had been withdrawn from Portuguese service, its 17-year FAP career ending in 1977.[42]

B-26 Invader

The Douglas B-26/A-26 Invader (not to be confused with the Martin B-26 Marauder) also made a brief appearance in Portuguese Guinea.[43] Able to carry large loads at high speed, the Invader entered combat in 1944 and saw widespread action in Europe and the Pacific during the last year of the Second World War. B-26s also flew the first and last U.S. Air Force bombing missions over Korea, in the interim destroying tens of thousands of enemy road and rail vehicles. Its ease of operation, versatility, and offensive punch made it an attractive option for counterinsurgency operations, and the Invader was recalled to USAF duty for "Air Commando" service in Vietnam beginning in 1961. It was also a favourite of clandestinely equipped rebel "air forces" in numerous small wars, such as the 1960–1964 Congo Crisis, the Bay of Pigs invasion, and the Biafran secession. Approximately 2,500 Invaders were produced, some of them configured or modified for photo reconnaissance, aerial refuelling, and weather reconnaissance.[44]

Portugal had initially petitioned the U.S. government to purchase 24 surplus B-26s, but official refusal led them to seek a smaller number from a private American supplier.[45] Arizona-based Aero Associates contracted to provide 20 Invaders to Portugal, but only seven were delivered before the remainder were seized by U.S. authorities in 1965.[46] Following extensive refurbishment and modification at OGMA, a pair of these aircraft was sent to Portuguese Guinea in 1971 for an operational evaluation prior to their planned deployment to Angola. Between March and June the two FAP Invaders flew 55 combat sorties, including three dozen bombing raids and strike missions.[47]

One of the Portuguese B-26s purchased clandestinely in the United States. (Historical Archive of the Air Force)

SE3130 Alouette II

The five-seat Alouette II was the world's first turbine helicopter to enter production, supplanting the heavier piston engines characteristic of earlier helicopters. The novel powerplant propelled the Alouette II to a number of early rotary-wing performance records, including those for altitude, time-to-height, and landing elevation.[49] First flown on 6 June 1955, production ended 20 years later after a run of 1,400 aircraft for civil and military users in nearly 50 countries.[50] Featuring a sturdy, reliable design that was easily maintained and adaptable to a variety of missions, Alouette IIs were among the first helicopters to see intensive wartime use, serving in Algeria, the Belgian Congo, and Rhodesia as well as Portuguese Africa.[51] The FAP received seven Alouette IIs beginning in 1957, and operated five survivors until 1976.[52] The first three were assigned to Montijo air base for search and rescue operations, and in October 1960 two were mobilised to Angola in anticipation of conflict there.[53] These would be joined by four additional Alouette IIs at Luanda in August 1962, heralding the start of Portugal's own "helicopter war."[54]

Portugal received its first Alouette II (9201) in 1957; the small fleet was instrumental in gaining experience in helicopter operations. (Historical Archive of the Air Force)

Table 8: Helicopters[48]		
	SE3130 Alouette II	**SA3160 Alouette III**
Origin	France	France
Manufacturer	Sud Aviation	Sud Aviation
First flight	1955	1959
Max speed	115mph	130mph
Cruise speed	110mph	115mph
Max range	350 miles	335 miles
Accommodation	pilot + 4	pilot + 6
Armament	none	1 x 20mm MG 151 cannon (*"helicanhão" variant)*

SA3160 Alouette III

The Alouette III was a significant improvement over its predecessor, with a more powerful engine and a larger carrying capacity (up to six passengers or two tons of cargo).[55] It was described as an "extraordinarily sturdy aircraft and very easy to fly," by one Portuguese pilot, and has earned an outstanding safety record in more than six decades of continuous production and use.[56] Several factors contributed to its wartime potential, including its ease of maintenance: the Alouette III required only half a man-hour of servicing for every hour in flight thanks to a number of intentional design attributes.[57] Its ruggedness further enhanced the helicopter's military worth, as the Alouette III was known to survive "astonishing quantities of small arms fire" and even anti-tank rocket hits.[58] All told over 1,400 Alouette IIIs have been manufactured in France and under license in Romania, Pakistan, Switzerland, and India, where the type remains in licensed production as the HAL "Chetak." During its 60-year history the Alouette III has seen extensive combat in the Zimbabwe Liberation War, during South Africa's border conflicts, and on both sides of the 1971 Indo–Pakistan War, in addition to Portugal's *Ultramar* campaigns.[59] The FAP received 142 Alouettes

The Alouette III was the most important element of Portugal's helicopter war in Africa. Its versatility and reliability enabled its use in a wide variety of missions. (Historical Archive of the Air Force)

Table 9: Utility Aircraft[61]			
	D.5/160	Broussard	Do-27
Origin	United Kingdom	France	West Germany
Manufacturer	Auster	Max Holste	Dornier
First flight	1960	1952	1955
Max speed	125mph	168mph	152mph
Cruise speed	108mph	143mph	112mph
Max range	460 miles	460 miles	845 miles
Armament	none	none	modified for rockets

III between 1963 and 1975, the last of them closing a lengthy and legendary career in 2020.[60]

Auster D.5/160

Auster-built machines were the most prolific British light aircraft of the Second World War, with more than 1,500 "aerial observation posts" shepherding Allied ground forces and performing a myriad of utility tasks. The much-evolved Auster D.5/160's short field capabilities, rudimentary maintenance requirements, and cockpit visibility appealed to the FAP in its search for a suitable liaison and observation aircraft, and in 1961 Portugal acquired 15 from the United Kingdom. Another 147 were assembled in Portugal by the *Oficinas Gerais de Material Aeronáutico* (General Aeronautical Material Workshops, abbreviated OGMA) per a 1959 co-production agreement. Of these, a total of 102 saw civil and military service in Portuguese Africa, including 75 FAP examples in the active combat theatres.[62] Although it handled well once airborne, Auster take-offs could be difficult ("Ever seen a drunk snake?" one pilot quipped), and pilots were wary of its tendency to ground-loop and "float" in ground effect – especially in hot weather conditions.[63] Nevertheless, the Auster D.5 "played a prominent role in the crucial stage of events in Africa…It transported the wounded, served as an aerial command post, gave pilot instruction, took off and landed from rudimentary airstrips or jungle clearings and, at times, was the target of strafing or isolated fire by rebel forces."[64] The Auster D.5/160 was retired from FAP service in 1976, although it had been replaced by newer aircraft in Portuguese Africa some years earlier.[65]

MH.1521 Broussard

Aircraft designer Max Holste conceived the Broussard – or "Bushman" – to satisfy a French Army requirement for a short take-off and landing (STOL) observation, light transport, and liaison aircraft. The Broussard first saw operational service in Algeria, where it proved "an enormous success" in those roles, as well as in special operations and search and rescue missions.[66] The MH.1521 later followed French forces to Chad, where it flew for both the *Armée de l'Air* and the *Escadrille Nationale Tchadienne* during that former French colony's civil war and subsequent conflict with Libya.[67] The Broussard could carry up to five passengers, or two stretcher cases with two seated patients as an air ambulance, or a cargo load of nearly three tons. It had enviable short-field capability, needing only 80 metres to land and 200 metres to return to the air.[68] Impressed by the type's performance in Algeria, Portugal ordered five MH.1501C models (one to be used as a source of spares) for delivery in 1960, and the last of them remained in the FAP's inventory until 1976.[69]

Do-27

Dornier built a total of 627 Do-27s, Germany's first mass-produced aircraft since the Second World War, including 149 for the FAP.[70] For political reasons most of Portugal's consignment were officially labelled as civil K1 and K2 variants, but were identical to the military Do-27-A4 model in every important respect, including added fuel capacity and easy modification to carry underwing armament. Users were most enamoured of the aircraft's aerodynamic performance, however, particularly its short-field operational capability and ease of handling. "The Do-27 turns like a car and, despite considerable speed even in right-angle turns, shows astonishing stability," a 1957 flight report enthused, while another praised its "amazing low-speed handling qualities," with the aircraft fully manoeuvrable at speeds below 45mph. This translated into exceptional STOL capabilities, the Do-27 needing just 70 metres to take off and 50 to land.[71] The aircraft was able to achieve this performance from rough, unimproved fields thanks to its "wide track" landing gear and augmented braking system, which turned out to be ideally suited for the forward airstrips scattered throughout the *Ultramar*.[72] Visibility was virtually uninterrupted in all directions, even vertically, greatly facilitating both short-field landing operations and observation activities.[73] Entering Portuguese service in December 1961, the last FAP Do-27s were withdrawn in 1979.[74]

C-47 Skytrain / Dakota

The Douglas C-47 Skytrain, known as the Dakota in UK and Commonwealth service, has achieved legendary status thanks to its participation in some of the most storied airlift campaigns in history, including Operation Overlord, the Berlin Airlift, and the early India-China Ferry over the Himalayas "Hump."[76] Originally designed as a civilian airliner, over time the militarised C-47 has been outfitted as a troop transport, cargo airlifter, paratroop plane, bomber, gunship, photoreconnaissance platform, glider tow plane, VIP transport, air ambulance, psychological operations platform, airborne command post, search and rescue aircraft, target tug, and electronic intelligence

Table 10: Medium Transport Aircraft [75]		
	C-47 Skytrain/Dakota	Noratlas 2501/2502
Origin	United States	France
Manufacturer	Douglas	Nord Aviation
First flight	1935 ("Douglas Sleeper Transport")	1949 (Nord 2500 n° 1)
Max speed	216mph	273mph
Cruise speed	191mph	208mph
Max range	2,125 miles	1,550 miles
Accommodation	28 troops or paras; 8,600lbs. cargo	45 troops/36 paras; 17,435lbs.
Armament	adapted as a night bomber	none

Portuguese Do-27s in Africa often performed medical evacuations; for these operations, FAP Dorniers carried a paratroop-nurse on board. (Maria Arminda Collection)

gathering plane. One C-47 was even credited with an air-to-air victory, having outmanoeuvred a Japanese Zero fighter to the latter's destruction over Burma in 1944, and both sides used modified Dakotas to bomb the other during the 1948–1949 Arab-Israeli War.[77] Commonly called the "Gooney Bird," the C-47 could endure gruesome battle damage and continue flying, and it easily handled operations from rough, unimproved airstrips. Its many virtues have kept the type in service for eight continuous decades, a record unequalled by any other military aircraft. Of the 17,276 C-47s built for military use since 1941, including those produced abroad under license, 25 refurbished and re-engined models remain on duty with six air forces worldwide in transport, gunship, electronic warfare, and maritime patrol configurations.[78] Of the 29 Dakotas flown by the FAP since 1943, seven flyable aircraft were left behind in Portuguese Africa following independence and the rest were withdrawn from service by the end of 1976.[79]

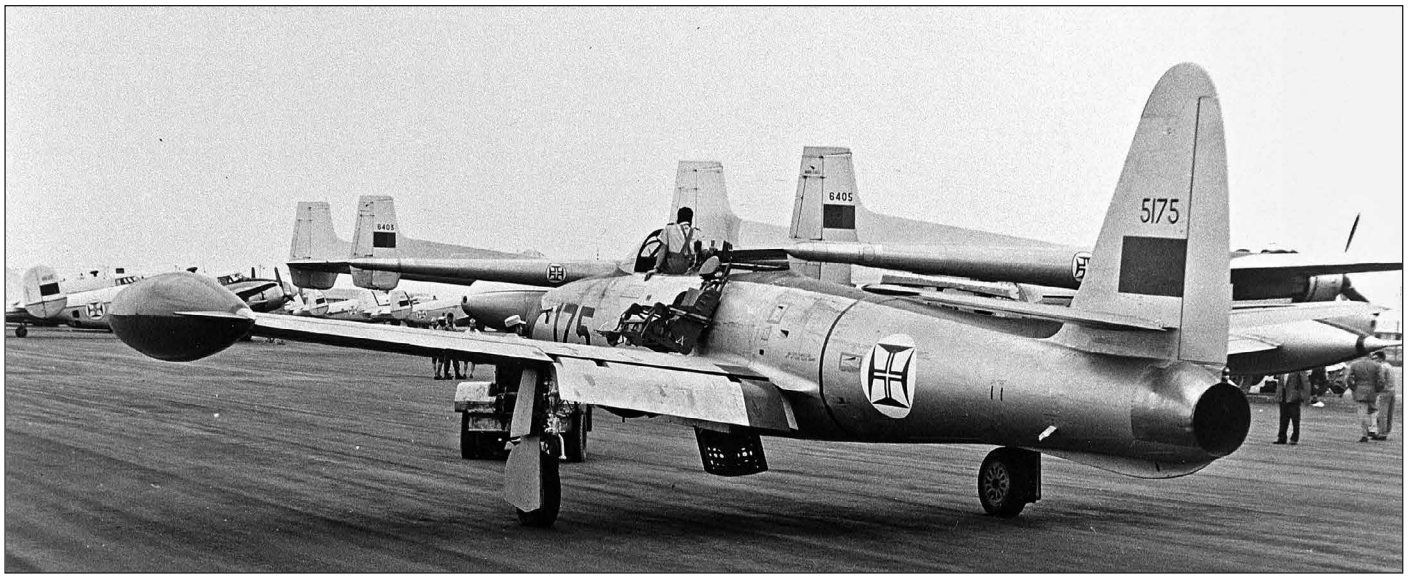
Noratlas

The second French military aircraft to enter production after the Second World War (following the Dassault Ouragan jet fighter), the Nord Noratlas was conceived as a medium-lift troop and cargo transport capable of airdropping cargo or paratroops and operating from short, unprepared airstrips.[80] Military and civilian versions alike featured clamshell rear doors for easy loading of large freight or light vehicles, and North African trials in 1955 demonstrated the ability of the Noratlas to carry a six ton payload 750 miles at over 200mph.[81] Arriving in Indochina three weeks too late to help the doomed French garrison at Dien Bien Phu, the Noratlas was employed extensively in Algeria and saw combat service during the 1956 and 1967 Middle East wars.[82] Its capacity, maintainability, ease of loading, and short field attributes – including widely spaced landing gear and raised propellers – made the Noratlas immensely popular with Portuguese aircrews serving in Africa, where it became a mainstay of tactical airlift operations.[83] In flight, *La Grise* (the "Gray One") was described as "very stable, robust, and therefore well behaved in turbulence as befits Africa."[84] Portugal acquired 15 civil 2502 models, some augmented with wingtip turbojet engines, from French and Israeli sources between 1960 and 1962. Thirteen 2501D military versions acquired from the *Luftwaffe* joined them in 1968, for a total inventory of 28 assorted Noratlas models. These served in Portuguese colours until withdrawn in 1978.[85]

C-54 Skymaster

Although never based in Guinea, the long-range aircraft of the so-called "Imperial Airline" made crucial contributions to the Portuguese war effort there. The earliest acquired and most numerous was the C-54 Skymaster, the first transoceanic four-engine transport to see service with the United States Army Air Forces (USAAF). The Douglas Aircraft Company built 1,241 military C-54s and civilian DC-4s from 1942 to 1947, and they flew a million miles a month over the Atlantic alone during the Second World War – roughly 20 round-trips a day – for the USAAF's Air Transport Command.[87] Many of those same aircraft later formed "the backbone of the Berlin

Loading a C-47 Dakota in Guinea. (Virgílio Teixeira Collection)



Two Noratlases at Luanda air base, Angola. Also visible are the taxiing F-84 and PV-2 Harpoons in the background. (Conceição e Silva Collection)

Table 11: Transoceanic Transport Aircraft[86]

	C-54 Skymaster	DC-6 / C-118	707-3F5C
Origin	United States	United States	United States
Manufacturer	Douglas	Douglas	Boeing
First flight	1942 (DC-4)	1946 (XC-112)	1954 (Boeing 367-80)
Max speed	207mph	308mph	600mph
Cruise speed	190mph	345mph	591mph
Max range	4,200 miles	4,330 miles	3,300 miles
Accommodation	49 troops or 14 tons	102 troops or 25 tons	181 passengers

Airlift" for the new U.S. Air Force in 1948–1949, each carrying nearly twice the load of the C-47.[88] In American service the C-54 also enjoyed an enviable reliability record, with only three USAAF/USAF C-54s lost in nearly 80,000 transoceanic crossings. Ultimately, the type served in 15 foreign air services as well as the U.S. Navy (which designated it the "R5D").[89] The FAP received its first C-54s in 1947 and had acquired 18 by the mid-1960s, including six maritime search-and-rescue platforms strictly reserved for North Atlantic service. The remainder became the workhorse of the *Linha Aérea Imperial*, the Skymaster being the first FAP aircraft able to fly from Lisbon to Luanda while crossing only Portuguese or international airspace, albeit with two refuelling stops and a crew change.[90] The FAP lost three of its Skymasters to accidents along that route in 1962 and 1963, having written off another in a 1951 crash, but the survivors continued operating until 1973.[91]

DC-6

The original "XC-112" began on a 1944 USAAF contract, but the end of the Second World War led to its redevelopment as the DC-6, Douglas' competitor to the Lockheed *Constellation* in the long-range commercial air transport market. The U.S. armed forces renewed their interest in the project during the Korean War, and from 1951 purchased 167 militarised versions (C-118A troop carriers for the Air Force and R6D transports for the Navy) out of a total DC-6 production run of 704.[92] In military service the C-118 was best known for its use as a Presidential transport, but the civilian DC-6 achieved success as "the apex of the development of the piston-engine airliner" and was one of the first commercial passenger aircraft to fly regularly scheduled around the world routes.[93] Tragically, however, the DC-6/C-118 series may be best remembered for the mysterious crash that killed United Nations Secretary-General Dag Hammarskjöld on 18 September 1961, while in Africa to negotiate an end to the Congo Crisis.[94] That same year Portugal purchased 10 used DC-6s from Pan American World Airways and assigned them to overseas service, with round trips between Lisbon and Mozambique taking half the time required by the C-54. The type remained in Portuguese service until 1978, although maintenance and supply issues consistently restricted the FAP's operational fleet to six or fewer.[95]

Boeing 707

Few aircraft have enjoyed the global popularity or commercial success of the Boeing 707, hailed as "a symbol of a new, high-flying age powered by forward-looking technology and design."[96] Derived from the privately funded 367-80 prototype, the 707 was the most popular passenger airliner of its era, and Boeing ultimately built over 1,000 between 1958 and 1978. These included specially-equipped military variants for surveillance and reconnaissance, command and control, test and instrumentation, electronic warfare, and VIP transport; Lyndon Johnson became President of the United States on one of the latter, a USAF VC-137 Stratoliner, as it ferried his predecessor's slain body from Dallas on 22 November 1963.[97] More distinct military derivatives of the "Dash-80" – the C-135 series – resulted in an additional 800 aircraft before production ended in 1991, most of them outfitted as KC-135 tankers, which remain the most widely-produced and numerous aerial refuelling platforms in the world by far.[98] The Portuguese airliner *Transportes Aéreos Portugueses* (TAP) had purchased three 707s for commercial use in 1967, and the aircraft's obvious advantages prompted the Portuguese air force to consider buying a similar number to supplement its ageing transoceanic fleet.[99] Fortunately for Lisbon, in 1970 the U.S. government relaxed its arms embargo to permit the blanket sale of

"non-lethal dual-use items which are preponderantly employed for civilian use."[100] This allowed the FAP to obtain two of the jetliners in 1972, and for the remainder of its Ultramar wars the Portuguese military boasted the highest aircraft utilisation rate of any 707 operator worldwide.[101]

Many of the FAP's aircraft had been designed and produced to fulfil airpower roles envisioned in NATO doctrine for fighting the Communist Bloc. The F-86F, for example, had first distinguished itself in sweeping aerial melees against top-of-the-line Soviet fighters, while the F-84G used by Portugal in Angola was originally developed in part to supplement American nuclear strike capabilities. The Neptune maritime patrol aircraft was optimised for anti-submarine warfare (and was itself capable of nuclear operations), while the Fiat G.91 was explicitly designed to satisfy a specific Alliance requirement. NATO's institutional influence affected nearly every other facet of the new air force's development during the 1950s as well; for example, in accordance with NATO's Euro-Atlantic defence plans all FAP aircraft were permanently based in either European Portugal or the Azores as late as 1959, with only a handful of civil Portuguese aircraft operating regularly in the *Ultramar*.[102]

For most of the 1950s the FAP was willing to comply with Alliance requests and restrictions, in hopes of "becoming a coequal and respected partner of other NATO countries" and boosting Portugal's international standing.[103] In addition to rearmament and reorganisation, NATO membership "had an immediate psychological, if not physical, effect" on the armed forces and led to sweeping changes in training, tactics, and doctrine conforming to allied convention.[104] At the encouragement of Portugal's military attaché to Washington, Humberto Delgado (1952–1957), and Chief of the General Staff Júlio Botelho Moniz (1955–1958), an increasing number of Portuguese officers – especially those from the more technically-focused *Força Aérea* – attended multinational training courses and exercises abroad. They returned home "with a new strategic and political vision of the world" that characterised the *Geração NATO*, or "NATO Generation" of personnel whose 1950s experiences influenced the entire Portuguese military establishment in the years to follow.[105]

Even as the FAP revelled in its NATO-sponsored "golden age," however, the apparent inevitability of renewed colonial warfare compelled its leaders to seek guidance regarding the proper use of airpower in this unfamiliar context. Here Portugal's traditional allies in France and Britain provided an ample well of both raw experience and refined doctrine to draw from. Europe's two largest imperial powers had until then borne the brunt of post-war nationalist upheaval, and between 1945 and 1960 their air forces participated in no fewer than nine major counterinsurgency (COIN) campaigns around the world, most famously in Indochina, Malaya, Kenya, and Algeria.[106] Lacking appreciable combat experience of its own, the FAP relied heavily on information provided by the Royal Air Force and *Armée de l'Air* regarding air warfare in a complex, often confusing, and sometimes contradictory environment. To this end they dispatched officers abroad to participate in relevant symposia while welcoming foreign experts to address military audiences in Portugal; invited speakers included French Second World War fighter ace and Algeria combat veteran Pierre Clostermann, who lectured the Institute of Higher Military Studies on "Aviation in Subversive War" on 29 April 1960.[107]

Between 1959 and 1963 a cadre of mid-level Portuguese officers attended courses in revolutionary theory, counterinsurgency warfare, psychological operations, and assault tactics conducted by the French, British, American, and even Belgian armed forces.[108] Lisbon also embedded a military liaison element with French forces in Algeria to directly observe ongoing COIN operations, including those employing airpower.[109] Information deemed pertinent was first compiled and disseminated as the *Guia para Emprego Táctico das Pequenas Unidades na Contra-Guerrilha* ("Guide to the Tactical Employment of Small Units in Counter-Guerrilla Operations") in 1961, with formal publication of the Portuguese military's capstone COIN manual, *O Exército na Guerra Subversiva* ("The Army in Subversive War"), commencing in 1963.[110] Within the FAP itself, relevant principles and procedures would ultimately be published in the *Manual do Apoio Aéreo na Contra-Guerrilha* ("Manual for Air Support in Counter-Guerrilla War"). Although the FAP's COIN doctrine wouldn't be formally consolidated and codified until 1972, its precepts were also developed and disseminated much earlier based on allied instruction and Portugal's initial operations in Africa.[111]

The corpus of available experience led to several defining assumptions that would underpin the air war in Portuguese Guinea and throughout the *Ultramar*. Among the most determinative was the FAP's expected monopoly on aerial force.[112] The French in Indochina and Algeria, the British in Malaya and Kenya – to name a few examples in a very long list – had enjoyed unfettered air superiority over foes that could not acquire or operate modern air and air defence forces of their own.[113] For Portuguese commanders, this generated two complementary expectations: first, that the FAP need only devote "relatively modest means" to its African endeavours, given the lack of "proper air opposition;" and second, that FAP aircraft could be used in a variety of roles that would be considered too dangerous in a "classic" war against opposing aircraft or conventional air defences.[114]

Another central feature of the war to come derived from the nature of insurgency itself: as perennial "underdogs" lacking the financial and industrial resources required to develop their own air or naval forces, insurgents have always operated almost exclusively on the ground, and that was where Portugal's forces expected to fight them. While the air campaign over Guinea would incorporate a variety of "independent actions" conducted solely by aircraft, the FAP's commanders understood that "the Air Force's essential mission in the fight against subversion is that of cooperation," requiring the FAP to "orient itself to facilitate the operations of the surface forces, especially the ground forces."[115] This necessitated fundamental changes in doctrine as well as training to prepare pilots and support personnel, until then unaccustomed to operating in close coordination with surface forces in a fast-paced, unpredictable, and ambiguous military environment.

To understand that environment, the FAP required a robust aerial intelligence-gathering capability. Observation and reconnaissance operations came to occupy a central role in FAP counterinsurgency doctrine, comprising one of the three perceived "classic" mission sets alongside air logistics and fire support.[116] Portuguese observers had duly noted the importance of airborne observation in Algeria, where the French had learned "air reconnaissance was of first importance to the ground forces."[117] Observation and reconnaissance craft had also proved extraordinarily useful to Britain's campaigns in Malaya and Kenya, leading the FAP to conclude that "the adversary's fluidity and the rapid evolution of its engagements give primary importance to the immediate employment of aerial [reconnaissance] assets and the rapid exploitation of information."[118] Within the rubric of "Reconnaissance Support" (*Apoio de Reconhecimento*) the FAP elaborated the following mission types to be performed on COIN operations:

- **RVIS** – *Reconhecimento Visual* (Visual Reconnaissance): "Reconnaissance over land or coastal waters, in which the search for information is made by the pilot or observer without the assistance of other means besides their own perception and visual capacities;"
- **RVIS-MAR** – *Reconhecimento Marítimo* (Maritime Visual Reconnaissance): "Reconnaissance in which the search for information is carried out over the sea, using not only the crew's visual capacity but also the aircraft's electronic means;"
- **RVIS-SAR** – *Busca e Salvamento* (Search and Rescue): "Reconnaissance over a particular land or sea area, with the purpose of searching for lost or shipwrecked personnel and facilitating or carrying out their rescue;"
- **RFOT** – *Reconhecimento Fotográfico* (Photographic Reconnaissance) – "Reconnaissance conducted with photographic equipment;" and
- **RELE** – *Reconhecimento Electrónico* (Electronic Reconnaissance): "Reconnaissance performed by the means necessary for detecting enemy radio and radar stations."[119]

Airlift and related logistical tasks figured even more prominently into the era's COIN doctrine.[120] The counterinsurgency effort in Malaya had been mightily challenged by jungle and mountainous terrain; aircraft, especially helicopters, enabled British forces to overcome the difficulties of surface transport there, an advantage which "proved essential to the success of the COIN campaign."[121] In Algeria, where vast stretches of Saharan wasteland dominated the province, COIN effectiveness was "multiplied many times" through airlift and aerial resupply, which afforded French ground forces speed, concentration, and surprise across great distances.[122] Portuguese forces would have to overcome their own geographical challenges in Guinea's extensive swamps, forests, and tidal flats, necessitating an extensive air transport network to deploy and support ground forces throughout the province, where a minute's helicopter flight time typically saved an hour's march through Guinea's irregular, often sodden terrain.[123] Correspondingly, the FAP classified the following mission types within the category of "Transport Support" (*Apoio de Transporte*):

- **TMAN** – *Transporte de Manobra* (Manoeuvre Transport): "All transport immediately associated with operations in progress;"
- **TMAN-ASS** – *Transporte para Assalto* (Assault Transport): "Transport of troops, generally by helicopter, for assault;"
- **TMAN-LCA** – *Transporte e Lançamento de Carga* (Cargo Transport and Drop): "Cargo dropped by parachute or freefall, generally for the [resupply] of engaged friendly forces;"
- **TMAN-LPA** – *Transporte e Lançamento de Pára-quedistas* (Paratroop Transport and Drop);
- **TEVS** – *Transporte de Evacuação Sanitário* (Medical Evacuation Transport), also known as medical evacuation (MEDEVAC): "Aerial action intended to move the injured, sick, etc. to rear areas;"
- **TGER** – *Transporte Geral* (General Transport): "General administrative logistical transport activity (of personnel, material, and miscellaneous);"
- **TGER-LCA** – *Transporte e Lançamento de Carga* (Cargo Transport and Drop – General): "Cargo dropped by parachute or in freefall for the supply of friendly elements;"
- **TGER-TRA** – *Transporte-Trânsito* "Transport of aircraft by their own means (ferry flights)."[124]

Two mission areas within the "transport" rubric deserve special attention: medical evacuation, or MEDEVAC (known to the Portuguese as TEVS, above), and postal operations. Fixed-wing MEDEVAC dates to the First World War, and rotary-wing operations to the Second, but the first dedicated helicopter medical evacuation unit was established in Malaya by the Royal Air Force (RAF) in 1950. Within four years RAF helicopters transported nearly 5,000 military and civilian patients to medical care, bolstering the morale of UK forces and improving public perceptions of British authority.[125] It was in Algeria, however, that this mission truly came to prominence. In 1959 alone French helicopters delivered some 7,500 casualties from forward positions to medical facilities, and MEDEVAC was soon regarded as the greatest single factor benefitting French troops in Algeria.[126] During the war for Portuguese Guinea MEDEVAC operations renewed their reputation for saving lives and boosting morale; conversely, the absence of reliable access to advanced care degraded individual initiative and small-unit effectiveness more than almost any other factor in the field.

The other important subset of transport operations was mail delivery to forward-deployed troops, described as "one of the most significant aspects of support to the ground forces."[127] Postal operations had been identified as a distinct mission category in the FAP's earliest COIN guidelines and accrued added significance as Portugal's overseas wars endured, given the scarcity of available entertainment and poor access to communications in Guinea especially.[128] Mail delivery was among the main reasons Portuguese forces there called Thursday "St. Airplane Day," as on that day the week's mail was brought to the provincial capital aboard a civilian TAP *Super Constellation* airliner.[129] Deliveries then made their way on light aircraft to outlying bases and outposts, ideally several times a week, and generally with much appreciation on the receiving end; however, as the FAP discovered periodically, delayed or misdirected mail could just as easily damage morale.[130]

The third of airpower's "classic" counterinsurgency roles also tended to attract the most attention: missions the FAP designated "Fire Support," including air strikes, bombing raids, and other offensive operations. The results of such activities in previous COIN campaigns had been mixed. Optimists found much in the historical record to reinforce their enthusiasm: for example, aerial fire support had proven spectacularly effective in repelling the final communist offensives during the Greek Civil War of 1946–1949, when government aircraft killed an estimated 3,000 guerrillas and put the survivors to rout.[131] Just two years later Viet Minh forces suffered a similar disaster at the hands of the French *Armée de l'Air*: to repel a Viet Minh effort to split French Union forces during the Battle of Vinh Yen, General Jean de Lattre de Tassigny ordered "the most massive air bombardment of the Indochina war," which left up to 9,000 insurgents dead and thwarted the Viet Minh's strategy to force and win a decisive battle in 1951.[132]

Beyond the body count, offensive airpower could also exact a devastating toll on guerrilla morale. In both Malaya and Kenya, British authorities found that, although direct air attack resulted in relatively few insurgent casualties, it did help persuade many of them to abandon their struggle.[133] Air-delivered firepower could backfire, however, and the FAP was privy to a long ledger of counterproductive air strikes undertaken by its predecessors. The British RAF in Malaya had learned "If you kill a few civilians" through air attack, "particularly if they are children, you do more

harm than all the good you may do by killing a few communist terrorists. You have made those people enemies for good."[134] Both there and in Kenya, traditional bombing had proven "wasteful and ineffectual," in one unit's experience requiring over a 1,000 tons of bombs to kill a single insurgent.[135] Ill-advised or errant air attacks could also incur an intolerable political cost, as the French discovered following a deadly (and politically disastrous) cross-border strike into Tunisia in 1958.[136]

Cognisant of the risks and benefits alike, the FAP demarcated the mission area of "Fire Support" (*Apoio de Fogo*) incorporating the following tasks:

- **ATIP** – *Ataque Independente Preparado* (Pre-planned Independent Attack, analogous to the U.S. Naval Aviation definition of Strike): "Actions taken without the necessity of coordination with the fires and movements of the surface forces, consisting of attacks against predetermined surface targets, and which may be prepared in advance;"
- **ATID** – *Ataque Independente Dirigido* (Directed Independent Attack): "Independent attack against designated surface targets, not previously known to the attackers, marked in space or time by the activity of other aerial assets (airborne command post), or by technical means of observers on the ground;"
- **ATIR** – *Ataque Independente em Reconhecimento* (Armed Reconnaissance): "Independent attack activity in which aerial assets search for surface targets to subsequently attack. This activity is…reserved for targets of opportunity, especially moving targets;"
- **AESC** – *Ataque em Escolta* (Attack "in Escort," but analogous to Suppression of Enemy Air Defences [SEAD]) – "Ground attack carried out to protect air resources which, by their nature or action, are particularly vulnerable to anti-aircraft fire;"
- **ATAP** – *Ataque Apoio Próximo* (Close Support Attack) – "Ground attack executed at the request and in immediate benefit of surface forces and, in their implied proximity, requiring strict coordination with surface forces;" and
- **ATAC** – *Ataque Acompanhamento* (Accompanying Attack) – "Attack in missions accompanying the surface forces," typically while in transit or while preparing for movement.[137]

The FAP, like its French and British contemporaries, fully understood that offensive airpower occupied a position of secondary importance in COIN, "that it is to be used but not abused" as one FAP study concluded.[138] Airpower's chief contribution by far derived from its performance of "indirect" functions, which involved more than the intelligence and logistics activities described earlier. The FAP was also called upon to perform a wide variety of miscellaneous roles, primarily in support of surface force operations, under the rubric of "Diverse" (*Diversos*) missions:

- **DACO** – *Acompanhamento* (Accompaniment): "Support action for surface forces in movement…which includes detailed information, orientation, and liaison support with other forces or higher command, possibly leading to the execution of fires against enemy surface elements," but not including direct action itself;
- **DLIG** – *Ligação* (Liaison): "Activities that consist of the establishment or reestablishment of contact or communications with friendly force elements, whose exact situation is important to know but cannot be established by other means;"
- **DCON** – *Controlo Volante* (Airborne Control): "Guidance, coordination, or command of surface, aerial, or joint activities, including the adjustment of artillery fire, by aircraft flying in the active area. In this activity, the aircraft comprises an Airborne Command Post [*Posto de Comando Volante*], or PCV;" and,
- **DESP** – *Especiais* (Special Operations): "Aerial actions that, for their rarity, peculiar nature, or necessity for secrecy, do not fit the previous definitions or should not be given a more explicit designation." Documented examples included radar evaluations, tests of nighttime flare dispensers, and leaflet drops.[139]

Although Portuguese and allied counterinsurgency doctrine projected a permissive, non-threatening aerial environment, the FAP did not intend to leave the *Ultramar* skies unguarded. By 1961 the first Soviet-built MiG-15 and MiG-17 fighters had appeared in the Republic of Guinea, less than half an hour's flying time from Bissau; coupled with reports of Soviet advisors at Conakry airport, MiGs in the service of one of Africa's most radically anti-colonial regimes understandably drew Portuguese concern.[140] The torrent of economic, political, and military activity accompanying the "Wind of Change" was also expected to increase air traffic throughout West Africa, and with it the risk of inadvertent overflights by wayward aircraft. To defend against airspace violations the FAP would, on very rare occasion, allocate aircraft to the following missions over Portuguese Guinea:

- **CPAT** – *Caça-Patrulhamento* (Fighter Patrol): scheduled defensive aerial patrols of friendly airspace to deter and defend against air intrusion;
- **CINC** – *Caça-Incursão* (Fighter Sweep): operations intended to clear specified airspace of enemy air activity, generally in support of ongoing friendly operations;
- **CINT** – *Caça-Intercepção* (Fighter Intercept): reactive fighter employment against actual or suspected airspace violations; and
- **CESC** – *Caça-Escolta* (Fighter Escort): dedicated aerial protection for attack, transport, or reconnaissance aircraft in potentially hostile airspace.[141]

Like their British predecessors in Malaya, the Portuguese armed forces also recognised the importance of winning – or at least not further losing – civilian "hearts and minds." The FAP was therefore directed to "act with discernment; always think about the psychological effects of using force; [and] always ensure the agreement of military efforts with those in the moral sphere."[143] All FAP operations, per a 1963 assessment by the Portuguese defence ministry, were to reinforce or at least align to "intense psycho-social action with the population, carried out by the administrative authority in cooperation with the military forces."[144] Consequently FAP aircraft were routinely tasked to perform a variety of humanitarian tasks, including medical evacuation from remote settlements and the airlift of Muslim pilgrims to Portuguese Guinea's sole international airport for onward flights to Mecca. The FAP ranked these and similar civil support missions among its highest priorities in order "to win popular support through cooperation and actions that improve living conditions."[145]

Table 12: Missions and Component Tasks [142]

Missions and Component Tasks			Abbreviation
Transporte (T) Transport	*Transporte de manobra*	Manoeuvre transport	TMAN
	Transporte de manobra para assalto	Assault transport	TMAN-ASS
	Transporte e lançamento-carga (manobra)	Cargo transport/drop (manoeuvre)	TMAN-LCA
	Transporte e lançamento de forças pára-quedistas	Paratroop transport and drop	TMAN-LPA
	Transporte evacuação sanitária	Medical evacuation	TEVS
	Transporte geral	General transport	TGER
	Transporte e lançamento-carga (geral)	Cargo transport and drop (general)	TGER-LCA
	Transporte-trânsito	Aircraft ferry	TGER-TRA
Reconhecimento (R) Reconnaissance	*Reconhecimento visual*	Visual reconnaissance	RVIS
	Reconhecimento marítimo	Maritime reconnaissance	RVIS-MAR
	Reconhecimento para Busca e Salvamento	Search and rescue	RVIS-SAR
	Reconhecimento Fotográfico	Photographic reconnaissance	RFOT
	Reconhecimento Electrónico	Electronic reconnaissance	RELE
Ataque em Solo (A) Ground Attack	*Ataque independente preparado*	Pre-planned independent attack	ATIP
	Ataque independente dirigido	Directed independent attack	ATID
	Ataque independente em reconhecimento	Armed reconnaissance	ATIR
	Ataque em escolta	Attack in escort	AESC
	Ataque apoio próximo	Close air support	ATAP
	Ataque em acompanhamento	Accompanying attack	ATAC
Diverso (D) Diverse	*Acompanhamento*	Accompaniment	DACO
	Ligação	Liaison	DLIG
	Controle Volante	Airborne control	DCON
	Especiais	Special	DESP
Caça (C) Fighter	*Caça-patrulhamento*	Fighter patrol	CPAT
	Caça-incursão	Fighter sweep	CINC
	Caça-intercepção	Fighter intercept	CINT
	Caça-escolta	Fighter escort	CESC

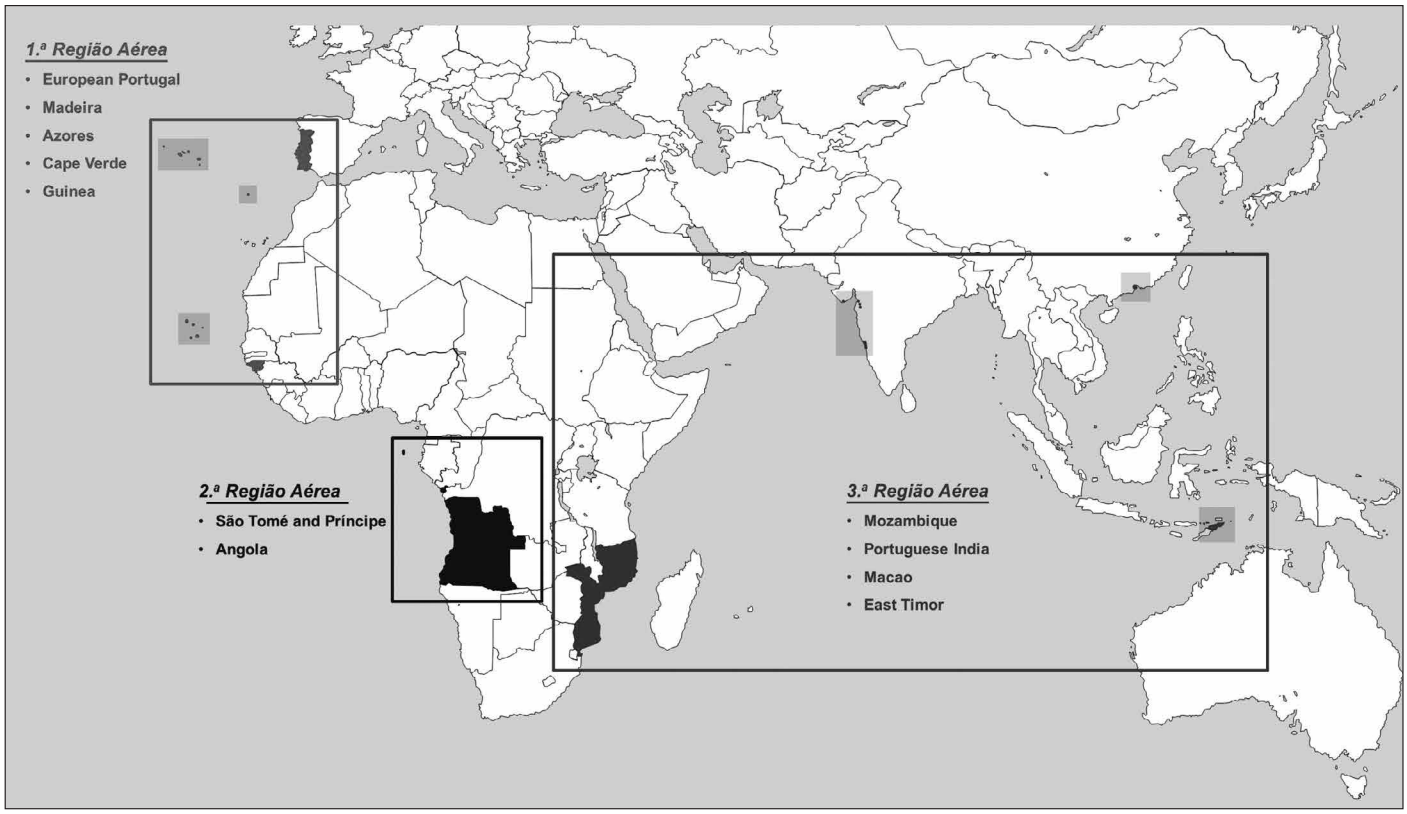
Whatever the specific task at hand, the FAP saw itself possessed of several advantages in the COIN fight. As later elaborated in the *Manual do Apoio Aéreo na Contra-Guerrilha*, these included, first, its responsiveness: airpower was able to concentrate and apply state power, including military force, much more rapidly than surface forces, a most "favourable factor" in the fight against traditional insurgent methods. Second was its reach, especially relevant given guerrillas' tendency to disperse across "very extensive zones of operation, often compounded by natural terrain obstacles." The third inherent airpower advantage was its ubiquity as a symbol of government power: "The fact of the Air Force's presence," the FAP's COIN doctrine later summarised, "is always relevant."[146]

Balancing these advantages were two fundamental drawbacks peculiar to airpower in COIN, including the remote nature of aerial operations compared to ground force activities. FAP operations generally resulted in minimal direct contact with the population, "rendering it inadequate in the conduct of policing and the maintenance of order in direct support of the civil authorities." Political and humanitarian constraints also limited the FAP's freedom of action, given the potential consequences of cross-border attacks or excessive civilian bloodshed. Since insurgents were known to intermingle with civilian elements and make extensive use of sanctuaries in neighbouring states, the operating environment was expected to "restrict the full employment of airpower and substantially reduce the types of objectives against which air operations may be employed."[147] In the longer term, those operational constraints would prove as detrimental to the overall air effort as the FAP's chronic resource limitations.

3
The Friendly Shade

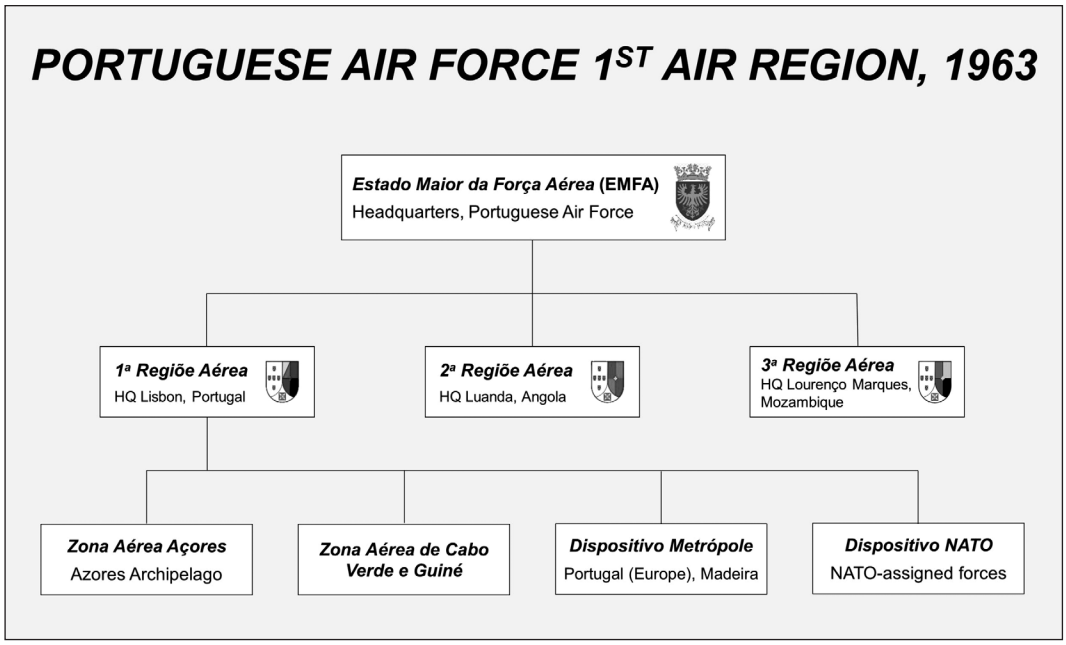
The friendly shade of the Portuguese Air Force's wings will cover the peace of our civilizing work, which we are undertaking smoothly and wish to continue in peace.[1]

As its doctrinal deliberations progressed, the FAP also assessed the forces and facilities required to fulfil new missions in multiple theatres spread across thousands of miles. Organisation drew the first official attention as the Defence Ministry began restructuring for the expected war, and in 1956 the Portuguese *Subsecretario de Estado da Aeronáutica* – the nation's Air Ministry equivalent – established "Air Regions" covering the service's expanded area of responsibility.[2] The *1.ª Região Aérea* (RA), headquartered in Lisbon, covered "Continental" Portugal, the Azores, Madeira, and the Cape Verde islands. Portuguese Guinea, along with Angola and São Tomé e Príncipe, was included in the *2.ª Região Aérea*, commanded from Luanda. The *3.ª Região Aérea* comprised Mozambique, Portuguese India, East Timor, and Macau, with its headquarters in Lourenço Marques (now Maputo). Each Air Region was responsible for organising, outfitting, and directing units providing air defence, transport, and fire support missions within their assigned areas, and

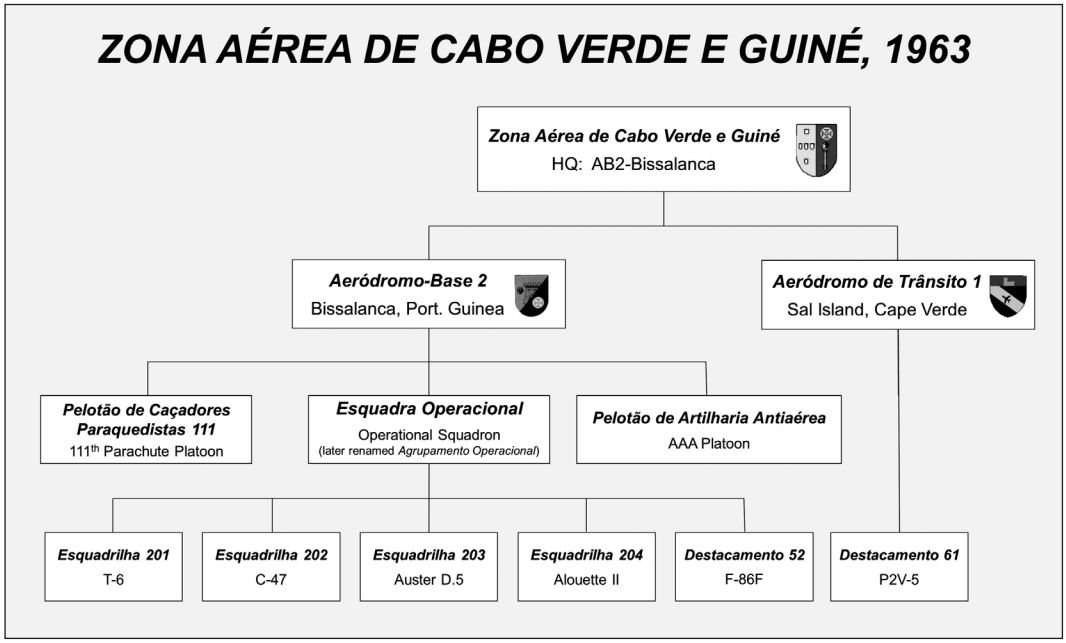


FAP Air Regions. (Matthew M. Hurley)

The FAP maintained a permanent P2V-5 Neptune rotation on Sal Island to respond to contingencies over Guinea. (Conceição e Silva Collection)



1st Air Region Organisation. (Matthew M. Hurley)



ZACVG Organisation. (Matthew M. Hurley)

their creation represented the FAP's first formal recognition of the overseas provinces as potential combat theatres.[3] Two years later, in 1958, Portuguese Guinea was reassigned to the 1st Air Region and grouped together with Cape Verde in the newly-created *Zona Aérea de Cabo Verde e Guiné* (ZACVG), headquartered at Bissalanca airport in Portuguese Guinea.[4]

The ZACVG controlled, maintained, and employed all aircraft based in Guinea and Cape Verde, the majority assigned to AB2-Bissalanca's *Esquadra Operacional* ("Operational Squadron").[5] The zone commander also exercised operational control over an F-86F detachment at Bissalanca, a P2V-5 Neptune element deployed to Sal Island, and a platoon of paratroopers, themselves FAP personnel. The subordination of the Portuguese Paratroop Regiment *(Regimento de Caçadores Paraquedistas)* to the air force gave the FAP an organic ground force component which, together with its airlift and fire support capabilities, permitted the *Força Aérea* to conduct integrated air-ground operations without any participation by the other services.[6]

The FAP also had to resolve more immediate practical problems of operating in Africa, and in Guinea particularly. In many respects Portugal's military situation was compromised from the start by geographical reality: to the insurgents' advantage, the territory was crisscrossed by an extensive web of rivers and streams, supplemented by inconspicuous local trails and paths, compared to just 60 kilometres of paved roads in the entire province. Much of Guinea was therefore inaccessible to mechanised forces or large infantry formations since the Atlantic tides flooded much of the territory up to 100 kilometres inland, leaving vast mudflats when they receded.[7] The province thus represented something of "a guerrilla's dream and a counter-insurgent's nightmare," requiring extensive riverine and aerial patrols to detect militant activity or movement.[8] From the perspective of contemporaneous counter-guerrilla experts such as French Army Major David Galula, Guinea's primitive transportation network, dispersed population, ample vegetation, and porous frontiers bordering "sanctuary" states represented a serious setback to Portuguese forces before the first shots had even been fired.[9]

Yet despite Guinea's challenging terrain – and precisely because of its small size – the colony did confer one indispensable advantage on the Portuguese, an edge their guerrilla foes initially could neither emulate nor eliminate: any point in the province could be reached by air from Bissalanca within an hour, even in slow-moving propeller-driven craft, and far less in the case of jet fighters. Most medical evacuation missions, often the most time-critical, also took just an hour or less, escorted by T-6s fire support craft that could remain on station three times that long.[10] Additionally, available air transport assets could easily overcome the terrestrial challenges complicating Portuguese military movement, and represented "the only means that permit surprising the enemy on the numerous islands" or for ensuring "the acceptable exercise of command" over surface operations.[11] Helicopters in particular seemed ideally suited for military use in Guinea, given the short distances, flat elevation, and sparse forest cover characteristic of the territory.[12] As for the climate and Guinea's infamous rainy season, the wet months were as predictable as they were extreme, which simplified flight safety

Flightline view of Bissalanca airfield in the early 1960s. Visible are (from fore to back) three F-86s, an Auster, and an Alouette II. (Air Force Historical Archive)

and long-term operational planning.[13] Together, these geographical and climatological factors helped to more precisely define the nature of the war to come: namely, that the side which controlled Guinea's skies could project decisive power at will throughout the territory.

As an early step towards achieving that objective, in 1958 Portugal's Undersecretary of State for Air, Kaúlza Oliveira de Arriaga, dispatched the first of several exploratory missions to the *Ultramar*. Their primary charge was to evaluate existing aviation infrastructure in Portugal's African provinces and to recommend improvements required to meet the FAP's projected wartime needs.[14] Led by General Venâncio Augusto Deslandes, the air force's Deputy Chief of Staff, the first delegation spent 39 days travelling throughout Portuguese Africa, including time spent evaluating facilities in Cape Verde and Guinea.[15] They returned with dire findings and an urgent appeal for action: "Aviation cannot be deployed to the Provinces without developing infrastructure," a November 1958 summary report concluded,[16] and that appraisal certainly applied to Portuguese Guinea. The territory had only a single paved runway, the 1,750-metre strip at Francisco Craveiro Lopes Airport in Bissalanca, outside the provincial capital of Bissau.[17] Opened in 1955, the airfield served primarily as a stop for civil TAP aircraft flying between Portugal's overseas provinces and the metropolitan mainland – routes maintained partly to reinforce Lisbon's prestige in, and sovereignty over, those territories.[18]

However, Bissalanca's airport was no shining example of Lusitanian achievement when assigned FAP personnel began arriving in the early 1960s. They described the runway as "decrepit" and severely degraded by unattended wear, risking foreign object damage (FOD) to jet-powered aircraft. The runway was also too short and the parking apron too small to accommodate jet warplanes, and the latter's surfaces soon suffered the corrosive effects of JP-4 jet fuel. For maintenance and other aviation support services a "modest, hastily-erected" hangar flanked the terminal. The base's radio communications and navigation aids were primitive and often inoperable during poor weather, while the lack of runway landing lights or an instrument landing system rendered the base unsuitable for operations in darkness or inclement weather.[19] Even in clear, well-lit skies otherwise routine operations could become problematic, with unannounced civilian aircraft surprising military pilots in the landing pattern on more than one occasion due to lax air traffic management. Ground security around the airfield was also challenging: in one instance a local inhabitant attempted to cross the runway as a jet fighter approached for landing, and just days later a herd of cows wandered onto the eastern end of the strip seconds before a pair of FAP aircraft were to touch down.[20] FAP commanders correspondingly fretted over the prospect of rebel infiltration, but base security was compromised by predictable routines, muddled command and control, inadequate warning mechanisms, and slow response times.[21]

Preparing Bissalanca for combat operations soon became a top priority for the Portuguese air force. In 1961 the ZACVG began a major construction program at Bissalanca to resurface and extend its runway; pave its taxiway; build aircraft hangars and revetments; create dedicated military parking and marshalling areas; and erect new maintenance, operations, and support facilities. These improvements were funded by a 1961 state allocation of 8,500 *contos* (approximately $2.7 million in 2021), a figure that increased to over 14,000 the following two years and nearly 20,000 in 1964.[22] Although the facility continued its civil air operations, Francisco Craveiro Lopes Airport became *Aeródromo-Base n.° 2* (AB2) on 25 May 1961.[23] The planned development took time to implement, however, and when the first FAP pilots arrived in July 1961, they found no operations centre, no aviation support facilities or personnel quarters, and no aircraft; "apart from a little house with a supposed tower," one of the first arrivals complained, "there was nothing."[24] Within six months, however, the essential improvements had been completed and the first combat units permanently based at AB2-Bissalanca commenced operations.[25]

AB2-Bissalanca was initially designated an Airfield-Base, one of several classifications given Portuguese airfields depending on their purpose, size, activity level, and on-site resources. As of February 1960, FAP airfields were categorised according to the following scheme:

- **Air Base** (BA – *Base Aérea*): A permanent air base with all necessary facilities, capable of supporting all FAP aircraft types at a robust operations tempo. Most Air Region and Air Zone commands were located at BAs.
- **Airfield-Base** (AB – *Aeródromo-Base*): A permanent airfield possessing essential support facilities, capable of limited operations by most FAP aircraft. Sector HQs within Air Regions were also typically housed at ABs.
- **Logistical Airfield** (AL – *Aeródromo Logístico*): An airfield primarily intended to service transport aircraft and support aviation-intensive logistics operations.
- **Transit Airfield** (AT – *Aeródromo de Trânsito*): An airfield supporting long-haul aerial transport through on-base

refuelling and maintenance facilities, navigation aids, and crew accommodations.

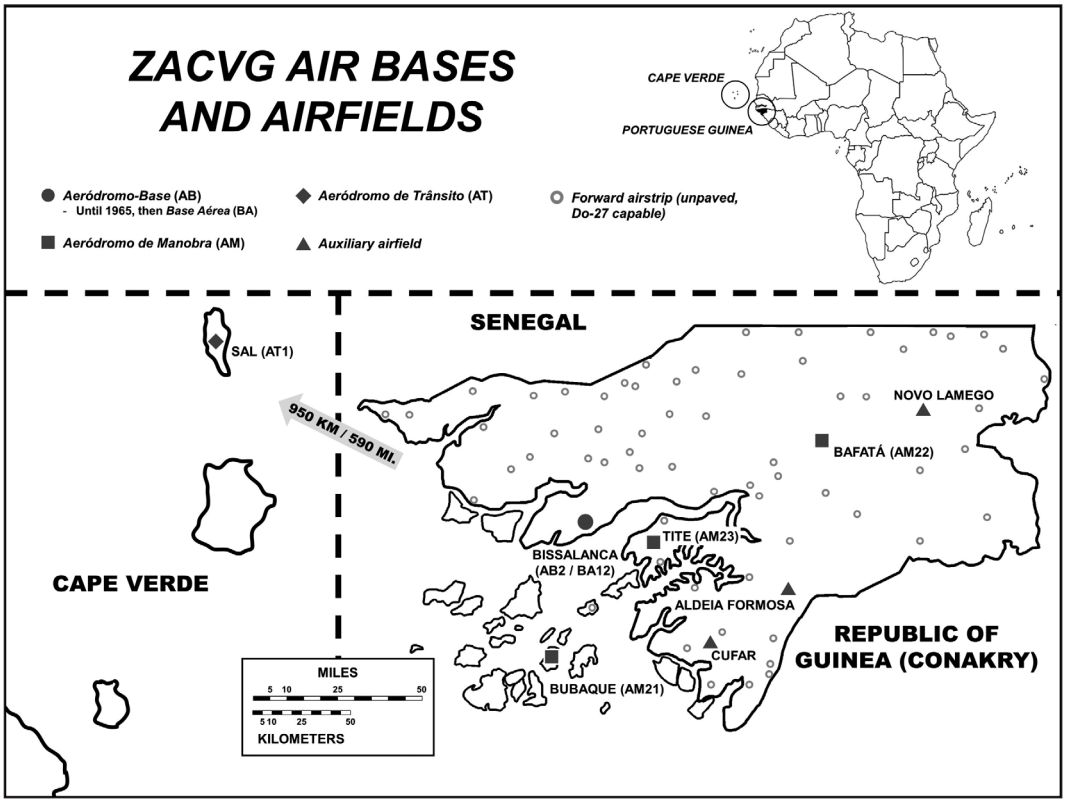
- **Alternate Airfield** (AR – *Aeródromo de Recurso*): An airfield used for special missions and emergencies.
- **Training Airfield** (AI – *Aeródromo de Instrução*): An airfield or base used for flight training.
- **Manoeuvre Airfield** (AM – *Aeródromo de Manobra*): Satellite airfields supplementing established BAs or ABs, resourced to support "surge" deployments and refuel/re-arm aircraft operating in forward areas.[26]

All Air Bases and Airfields-Bases were to be usable by jet fighters; all Manoeuvre Airfields (AMs) and Airfield-Bases were to be capable of medium transport operations, while Transit Airfields (ATs) were to accommodate Douglas DC-6 or Lockheed Constellation-sized aircraft, i.e. four-engined propeller transports. Additionally, all BA, AB, AM, and AT installations were required to maintain a communications centre and medical station.[27]

As an *Aeródromo-Base*, Bissalanca could not fully support all FAP activities, most importantly long-range airlift – a potentially war-losing deficiency. From their earliest deliberations Portuguese airmen understood that "only aviation can rapidly link the overseas provinces to Continental Portugal" and planned accordingly, culminating with a major air mobility exercise called "Himba" in April 1959.[28] During this deployment six FAP Lockheed PV-2 Harpoon patrol bombers, along with four each Douglas C-47 and C-54/SC-54 transports, flew to Angola via stops in Cape Verde, Portuguese Guinea, and São Tomé, concluding with an aerial firepower and paradrop exhibition at *Base Aérea 9*, in Luanda. In addition to demonstrating the FAP's resolve, might, and intercontinental reach, the exercise highlighted the importance of the ZACVG's *Aeródromo de Trânsito 1* (AT1) on Sal Island (Cape Verde) as a critical link in airlift operations to and through Guinea.[29] Later improvements would enable larger Portuguese aircraft, including Boeing 707s used from 1972, to operate from Bissalanca, by that time rechristened *Base Aérea 12* (BA12) – a designation it received in 1965 to reflect the expansion of its facilities and responsibilities.[30]

Portuguese forces also sought to establish a network of satellite airfields and auxiliary runways to better support surface units deployed throughout the territory. The air force's 1958 survey counted 28 airstrips (besides Bissalanca) scattered throughout Portuguese Guinea, but none were paved and only one could be used by DC-3 or similar aircraft. Most of the rest could accommodate only light utility planes, and even that depended on local weather conditions during the lengthy rainy season.[31] Initial plans called for the development of three *Aeródromos de Manobra* (AMs), or

The FAP routinely deployed aircraft, including the T-6 and Alouette III, to forward airfields such as Nova Lamego in support of army and marine operations. (Virgílio Teixeira Collection)



Air Bases and Airfields**.** (Matthew M. Hurley)

"Manoeuvre Airfields," to extend FAP combat power and aerial lines of communication to key points throughout the province. AM21 (Bubaque), AM22 (Bafatá), and AM23 (Tite) were improved to accommodate piston-engined fighter-bombers and medium transport aircraft, with Bubaque designated as an alternate for Bissalanca.[32] Additional satellite airfields were later established at Cufar, Nova Lamego, and Aldeia Formosa, all with packed-earth runways approximately 400–700 metres in length.[33]

Far more numerous were the auxiliary and temporary airstrips established throughout Guinea, most in direct support of specific army units at forward outposts. Ultimately over 70 landing fields dotted the Guinean landscape, many of them no more than unimproved clearings or open sections of road.[34] These included "the most rudimentary runways," one FAP pilot recollected, "a few metres wide, about 200 meters long, some curved, sometimes with cows mixed in, ending with a barbed wire barrier or even the barracks' reinforced concrete gate."[35] Throughout the war in Guinea, Portuguese airmen made as many as seven sorties a day to and from these "crap runways," but those runways were the arteries through which the army's lifeblood flowed.[36]

As airstrips proliferated throughout Guinea the FAP began basing aircraft in the province. Initial plans in 1960 called for a complement of four each observation, medium transport, and fire support aircraft to be permanently assigned at Bissalanca-AB2, but while light planes and transport aircraft had been regular visitors during the previous few years, armed warplanes had never before been based in the province.[37] That changed in a dramatic way following the first organised armed attacks against Portuguese authority in Guinea since 1936. Despite the preparatory work conducted by Amílcar Cabral's PAIGC, it was a smaller rival movement that first struck when, on 17 July 1961, militants of the Guinea Liberation Movement (*Movimento de Libertação da Guiné*, or MLG) initiated a series of small-scale attacks against Portuguese economic and military interests in northern Guinea.[38] These incidents prompted most European residents to flee to the supposed safety of Bissau and compelled the provincial government to dispatch security forces to the affected areas.[39] Although those deployments deterred future MLG attacks, the outburst of violence shattered any remaining sense of complacency and accelerated Lisbon's efforts to reinforce its military presence in the colony.[40]

By this time the FAP had already begun transferring military aircraft to its African territories. Following the outbreak of the Angolan war in February 1961 the FAP deployed the first 12 F-84G Thunderjets to Luanda, where they formed the nucleus of *Esquadra 93*.[41] The *1.ª Região Aérea* also received 12 PV-2 Harpoon maritime patrol bombers as *Esquadra 91*, and together the two squadrons comprised the FAP's Luanda-based *grupo operacional*. In August 1961 the first Alouette II helicopters arrived in theatre, providing local commanders a limited troop transport and medical evacuation capability.[42] As the first Portuguese colony to experience widespread armed revolt, Angola was understandably reinforced "quickly and in force," initially receiving the predominant share of available airpower. Nevertheless, by the summer of 1961 the first FAP assets had also been assigned to Portuguese Guinea and Mozambique in anticipation of rebellion in those provinces as well.

Table 13: Portuguese Air Assets in Africa, June-October 1961[43]

Aircraft	ZACVG (Guinea and Cape Verde)	2ª RA (Angola)	2ª RA (Mozambique)	Notes
Noratlas	-	7	-	
Dakota	2	-	6	
Broussard	-	4	-	
Do-27	-	14	-	
PV-2	-	12	-	
T-6	4*	15	-	*First arrived in September 1961
F-84	-	12*	-	*First arrived in July 1961
Alouette II	-	2*	-	*First arrived in August 1961

Flightline view of BA9 in Luanda, Angola; visible are 18 F-84s, a pair of PV-2s, and a single Do-27. (Historical Archive of the Air Force)

At the beginning of 1961 provincial authorities in Guinea could call upon, at most, a pair each of C-47 Dakota transports and Auster light observation/liaison aircraft, but the MLG's initial attacks on 17 July prompted the FAP to prepare for the deployment of frontline combat aircraft to Portuguese Guinea .[44] Initially, the service considered dispatching F-84G fighter-bombers to the restive province, but a sizeable portion of the Thunderjet fleet had already been committed to planned FAP operations in Angola.[45] Consequently, the

FAP leadership selected the Sabre to deter – and if necessary, combat – rebellion in Guinea. The F-86F was the ultimate day fighter Sabre development, and while not as stable or accurate an air-to-ground weapons platform as the F-84G, the basic F-86 design had demonstrated itself a capable ground attack fighter.[46] Orders correspondingly arrived at *Base Aérea 5* in Monte Real by month's end tasking *Esq. 51*, the *Falcões* (Falcons),[47] to ready eight Sabres for detached duty in Guinea.

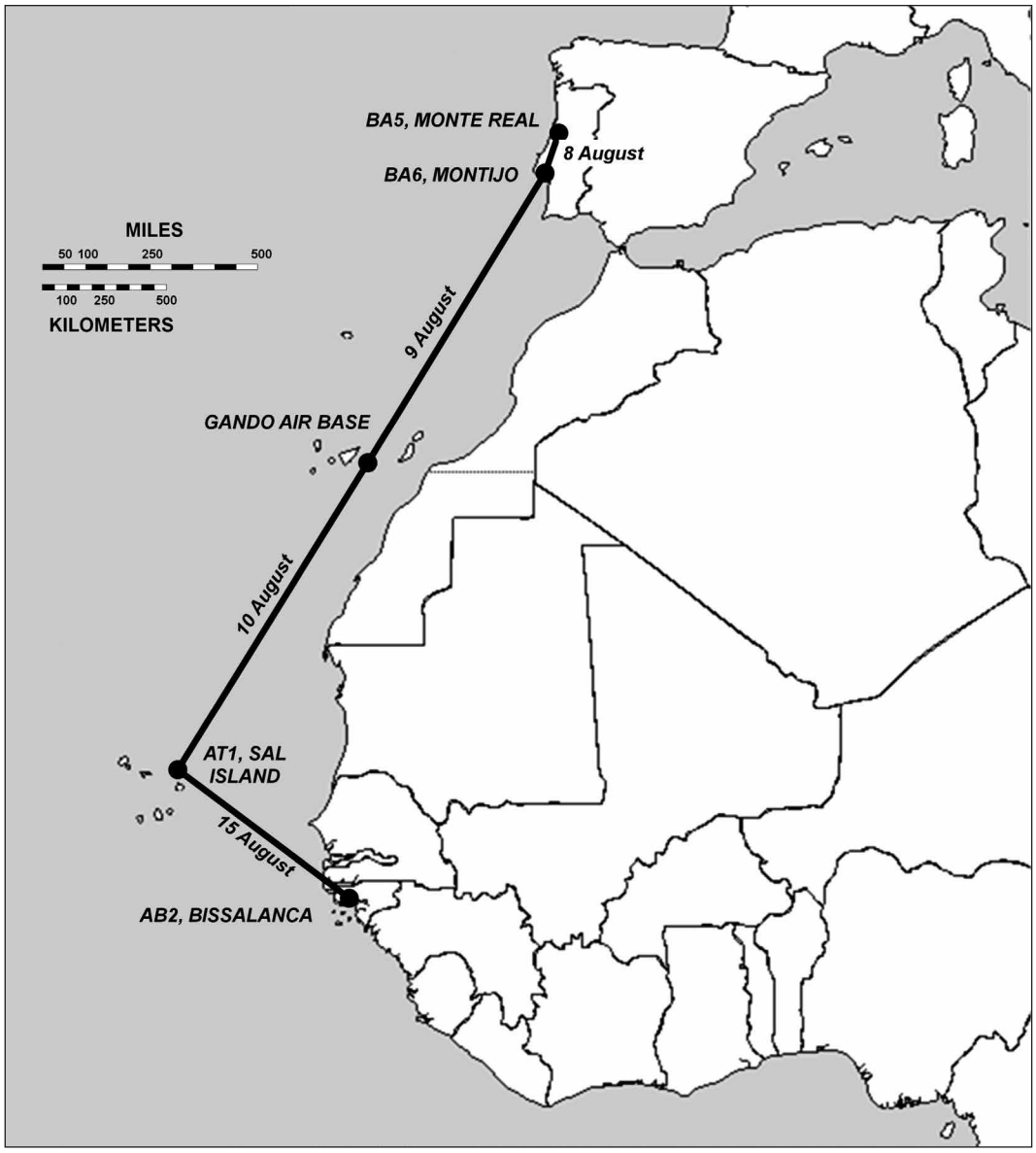
The F-86F deployment, named *Operação Atlas*, represented a noteworthy projection of Portuguese military power. Preparations were facilitated by earlier planning for an expected air defence mission to Cape Verde, and to ensure maximum operability the *Falcões* selected those aircraft most current on their IRAN (Inspect and Repair as Necessary) maintenance and overhaul requirements.[48] On 8 August 1961, just three weeks after the MLG's initial attacks, 10 Sabre fighters (two of them operational spares) departed for their first stop at BA6-Montijo, where they remained overnight.

The following morning, eight of the aircraft were seen off by State Secretary for Aeronautics de Arriaga enroute to the Spanish air base at Gando, in the Canary Islands, a journey of 722 miles. On 10 August the eight Sabres flew the 800-mile distance to the Portuguese airfield on Sal, one of the Cape Verde islands, where the detachment spent four days grounded by the first rains in the archipelago in seven years. Finally, on 15 August, the FAP F-86F contingent completed the final 526-mile flight to Bissalanca, where they assumed their duties as *Destacamento 52*.[49] Portuguese F-86F pilots soon settled into a routine of three-month rotations at AB2, where

Kaúlza de Arriaga greeting F-86F pilots assigned to "Operação Atlas" at Montijo. (Conceição e Silva Collection)

Captain José Almeida Brito, one of the F-86F pilots involved in Operation Atlas. Years later he would be killed in action over Guinea, the victim of a Strela-2M missile. (Conceição e Silva Collection)

F-86F (FAP 5314) at night on Sal Island, Cape Verde. (Conceição e Silva Collection)



Map of Operation Atlas Deployment. (Matthew M. Hurley)

F-86Fs at Bissalanca, alongside a FAP T-6 and C-47. (Lobo Fernandes Collection)

they initially performed reconnaissance duties, provided territorial air defence, and presented a visible deterrent against nationalist violence throughout the province.[50]

A month after *Destacamento 52* deployed to AB2-Bissalanca the first two T-6 aircraft arrived, disassembled and crated, by sea at Bissau's Pidjiguiti docks.[51] By early 1962 eight FAP T-6s had been assembled and organised into a fire support *esquadrilha* (flight), and a local firing range established to develop crew proficiency in air-to-ground operations.[52] From the FAP perspective, "the T-6 represented the best compromise between simplicity, ease of maintenance, durability, armament load, and availability" to provide crucial fire support to friendly ground forces.[53] Many of the FAP's Texans and Harvards had previously served with the French *Armée de l'Air* in Algeria, and were consequently equipped to fire air-to-ground rockets or deliver small (15kg and 50kg) gravity bombs.[54] Later in the conflict West Germany, already a major Portuguese arms supplier, provided dozens of additional T-6s along with Do-27 utility aircraft and G.91 fighter-bombers.[55] For operations in Africa all FAP T-6s were all adapted to carry weapons and ordnance, including an S.F.O.M 83 gunsight and four Browning 7.7mm machine guns installed in a pair of underwing pods.

However, the noise of the T-6's piston engines and its slow speed combined to give ample warning of the aircraft's approach, and its light carrying capacity rendered the type less than ideal for attacks against PAIGC base areas or guerrilla concentrations. Even with its meagre load the T-6 required two to three minutes to complete a strafing pass, and nearly twice that for a bomb run, often while exposed to hostile ground fire. As a result, Texans and Harvards suffered more battle damage per sortie, on average, than any other FAP aircraft.[56] These negative factors rendered the T-6, in the words of former ZACVG commander and FAP chief of staff General Manuel Diogo Neto, "a genuine hindrance in operations," yet out of necessity it quickly became the FAP's ground attack workhorse in Guinea and remained so until the war's 1974 conclusion.[57]

A FAP F-86F being prepared for a mission. (Air Force Historical Archive)

Mounting underwing pods with four Browning 7.7mm machine guns onto a FAP T-6. (Jose Nico Collection)

The Lockheed P2V-5 Neptune maritime patrol aircraft was introduced into the *Zona Aérea da Cabo Verde e Guiné* at about the same time the F-86 and T-6 made their African debut. Portugal had acquired a dozen used Dutch examples just the previous year, 1960, and their deployment to the *Ultramar* was immediately identified as an operational priority given their long range and endurance, heavy payload, and ability to monitor the coastal activity affecting Portugal's African possessions.[58] The first P2V-5 deployment arrived at AB2-Bissalanca in 1961, but the two Neptunes, their crews, and maintenance/support staff – collectively designated *Destacamento 61* – relocated to AT1-Sal in Cape Verde at the beginning of 1962.[59] Over the following year, P2V-5s performed maritime and land reconnaissance over Guinea and adjacent waters, monitoring potential infiltration routes for insurgent movement.[60] However, without the necessary on-scene technical support at Sal or Bissalanca, repairs entailed long periods of inactivity while awaiting the arrival of parts or specialists from the Neptunes' home station, *Base Aérea 6* at Montijo in mainland Portugal. Even if local repairs were unnecessary, the detachment's aircraft were required to return to Montijo after every 60 hours' flying for scheduled inspection and maintenance. Given the time required to shuttle the PV2-5 aircraft between Portugal, Cape Verde, and Guinea, a Neptune would arrive at AB2-Bissalanca with perhaps 27 flight hours, and as few as 16, available for that aircraft's two-week deployment to Guinea. Operational efficiency plummeted in consequence, and the FAP soon concluded it made greater military and economic sense to satisfy the ZACVG's P2V-5 requirements from Montijo itself. In late 1964 Detachment 61 was disbanded, and from then a pair of P2V-5 aircraft and their crews remained in a state of continual readiness at Montijo, on alert to assist Portuguese forces in Cape Verde and Guinea as required.[61]

For medium transport duties, the FAP initially relied on the venerable C-47 Dakota, at least one example of which was continuously available at Bissalanca from 1961.[62] While these were sometimes adapted to perform photo reconnaissance or night bombing missions, the odd combat sortie did not detract from the Dakota's primary mission as FAP C-47s maintained both a scheduled Cape Verde-Portuguese Guinea route and regular supply runs from Bissalanca to outlying airfields.[63] On at least two occasions in 1967 and 1968, FAP Dakota aircraft were also used to drop paratroops as part of larger air-ground operations.[64]

Observation, liaison, and light transport tasks originally fell to Auster D.5 and Max Holste MH.1521 Broussard aircraft, both of which served relatively short stints in Guinea until the Dornier Do-27 replaced them in most utility roles by the end of 1963.[65] The FAP carried out tests of the German-built Do-27 beginning in the spring of 1961 and found its short field capability, endurance, and

A P2V-5 Neptune in Bissalanca during one of its operational stopovers in the territory. (Conceição e Silva Collection)

A C-47 Dakota taking off from a forward airstrip in São Domingos, Portuguese Guinea. (Virgílio Teixeira Collection)

versatility ideally suited to service in Africa.[66] Most Portuguese Do-27s (or simply "DOs") could also carry 18-round 37mm rocket pods under each wing, with additional rails for 68mm smoke rounds to mark targets. However, the lack of a weapons aiming sight severely restricted accuracy to the extent that Do-27 pilots rarely used rockets for either purpose. For target marking, FAP crews usually preferred to lob one-kilogram smoke pots from the cabin instead.[67]

With over six hours' airborne endurance, the Do-27-A4 variant also carried VHF and HF radio equipment, including, crucially, an ARC-44 set enabling voice communication with ground forces. Entering Portuguese service between December 1961 and January 1962, Do-27s began appearing at AB2-Bissalanca in 1963 and spent the next 11 years delivering light cargo, conducting armed reconnaissance, evacuating sick or wounded personnel, performing airborne command and control, and transporting commando teams in Portuguese Guinea.[68]

However, no class of aircraft symbolised Portugal's air war in Guinea – or indeed, any counterinsurgency air campaign – more than the helicopter.[69] These craft made their definitive COIN debut during the Hukbalahap rebellion in the Philippines, where even early models acquitted themselves well against guerrillas in mountainous terrain.[70] In Malaya the UK's use of rotary-wing aircraft to deploy and resupply its forces, particularly long-duration patrols deep in contested territory, "almost revolutionized the jungle war" in the opinion of one senior British officer.[71] Likewise, helicopters both increased the French army's responsiveness to Algerian FLN "hit and run" tactics and lessened the impact of rough terrain and distance on government forces. So integral were helicopter operations to the

An SE3130 Alouette II being refuelled at Bissalanca. (Historical Archive of the Air Force)

FAP Do-27s in Guinea were modified to carry 18-round 37mm rocket pods under each wing, although they rarely used this type of ordnance. (José Nico Collection)

overall French effort that whenever a new outpost was established, preparation of a helicopter landing pad was the first order of business.[72] FAP observers in Algeria correspondingly concluded that "The use of helicopters, in the particular case of subversive warfare, offers exceptional possibilities," including the heliborne air assault missions pioneered by French forces.[73]

Regarding Portuguese Guinea specifically, FAP officials concluded that the difficult terrain left helicopters "the only advisable transport. If in this kind of war the helicopter is always advised, it is with compelling reasons here in Guinea."[74] Appropriately, the FAP acquired its first practical military helicopter from France, the Sud Aviation (later Aérospatiale) SE3130 Alouette II. The trio of Alouette II helicopters sent to AB2-Bissalanca pioneered the FAP's emerging helicopter operations doctrine in Guinea, performing observation, liaison, logistics, and medical evacuation duties until supplanted by the more capable SE3160 Alouette III in 1966.[75]

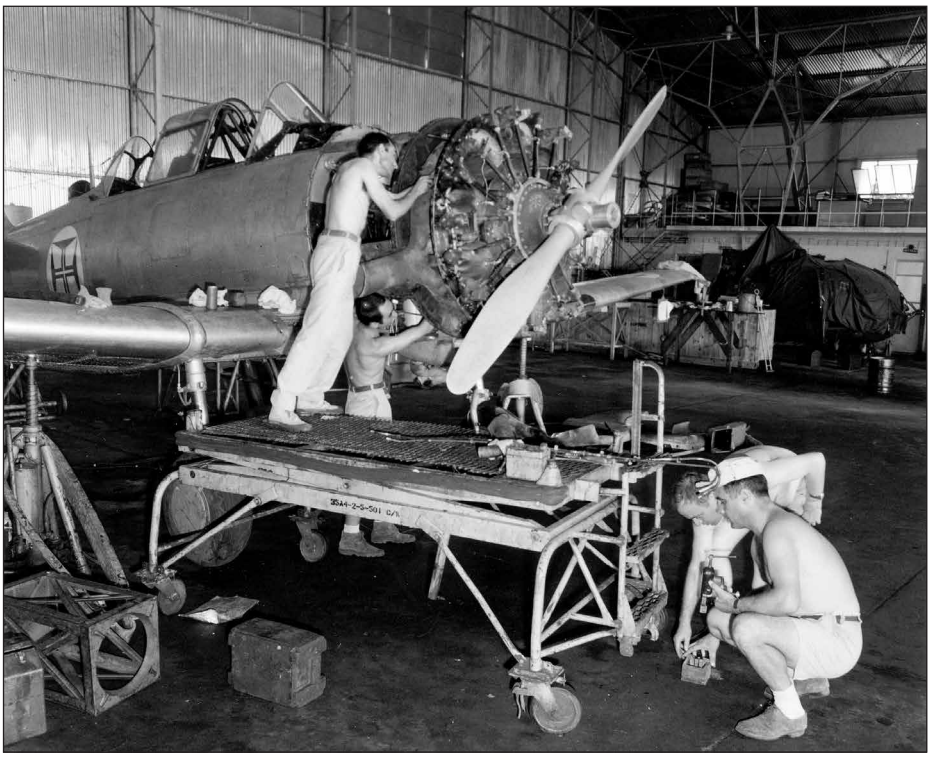
Whatever aircraft the FAP deployed to Guinea, only those ready to fly could contribute to the war effort. Generally speaking, however, the aircraft available to the FAP during its *Ultramar* wars were outdated, designed for other purposes, or both, and international opposition to Portugal's overseas policy severely restricted new acquisitions.[77] Operational intensity and austere conditions compounded these material shortcomings, creating maintenance challenges the *Força Aérea* was hard-pressed to overcome. A series of FAP evaluations in 1963 found endemic parts shortages and other maintenance issues affecting all aircraft, notably restricting the operational potential of some types such as the F-86 and P2V-5. Across the fleet each hour in flight required, on average, 10 to 15 hours of maintenance, a situation compounded by a shortage of qualified technicians and crew chiefs.[78]

Lack of parts, maintenance equipment, and servicing personnel continued to plague the FAP in Guinea even as newer types arrived, such as the Noratlas medium transport and the Fiat G.91 jet fighter-bomber.[79] Bissalanca's air wing continued to suffer from "catastrophic maintenance performance," according to a 1969 report which also observed "The Do-27 fleet is almost entirely grounded [and] of the 19 Al-III helicopters, only 3 are in an acceptable combat-ready condition."[80] In fact, during the period 1965-1970 aggregate ready rates at AB2-Bissalanca varied between 41 and 56 percent, with Do-27 availability averaging an abysmal 31 percent, percentages that both exacerbated the initial scarcity of available airframes and magnified the impact of any loss.[81] Military requests to establish advanced maintenance facilities in-

Table 14: Air Order of Battle, ZACVG, 1961-1963[76] (including aircraft assigned to AB2-Bissalanca and alert aircraft at AT1-Sal)

	September 1961	January 1963	May 1963	August 1963
F-86	8	7	7	8
T-6	4	6	8	5
C-47	1	2	3	3
Auster	2	5	8	4
PV2-5	1	2	1	2
Broussard		1	1	1
Do-27				3
Alouette II				3
Total	15	23	28	32

All three theatres saw extensive napalm use, though consumption was more intense in Guinea than in Angola or Mozambique. (Jochen Raffelberg Collection)



T-6 maintenance at Bissalanca. (Jose Nico Collection)

80kg napalm bombs. (Jochen Raffelberg Collection)

theatre went unfulfilled, forcing the FAP to cannibalise some planes for parts to keep the rest flying and further reducing the number of operationally ready aircraft.[82] Maintenance troubles also plagued those aircraft servicing Guinea but permanently assigned elsewhere: for example, one in five flights of the FAP's DC-6 transports suffered an engine failure while flying from Portugal to Africa.[83] Yet Portugal usually managed to keep the bare majority its Bissalanca-based inventory flyable, and given the venerable state of much of its fleet – not to mention the austere operating conditions, high operations tempo, extended supply lines, and limited budget – even the FAP's marginal operational rates represented a technical achievement of considerable significance.

"If it was difficult to ensure aircraft maintenance," a FAP retrospective later acknowledged, "acquiring munitions was even more difficult."[84] Securing adequate supplies of appropriate ammunition for use in Africa proved "one of our major problems," former Bissalanca base General Diogo Neto recalled bitterly. "We used what was available, which was not always suitable. The arsenal was never well-stocked, and consumption was subject to monthly restrictions." Available ordnance was generally antiquated, with 0.50-cal. machine gun rounds particularly prone to failure.[85] Given the intensity of Portugal's war in Guinea relative its other African campaigns, that situation could only deteriorate; indeed, at the war's peak the FAP found itself consuming more munitions in Guinea than in Angola and Mozambique combined.[86] To mitigate the shortfall, Portuguese-produced ordnance was widely used, much of it adapted from leftover artillery rounds or excess grenades.[87] The state-owned aeronautical firm OGMA also fabricated weapons pylons for Do-27 and T-6 aircraft, and modified the latter to carry Browning 0.50-cal. machine guns salvaged from scrapped Hurricane and Spitfire fighters, replacing the malfunction-prone French MAC gun.[88]

A sampling of the munitions carried by the F-86F. (Historical Archive of the Air Force)

Gravity bombs used in Guinea (when available) included 500lbs. and 50kg general purpose (GP) weapons, and fragmentation bombs of 20lbs., 15kg, and 200kg.[89] The FAP also employed French SNEB 37mm fragmentation rockets and U.S. "Mighty Mouse" 2.75-inch anti-personnel and anti-tank folding-fin aerial rockets (FFAR), carried in 36-round pods by T-6s or in 18-rocket launchers on some Do-27s. Less-frequently used ordnance included 5-inch high-velocity aircraft rockets (HVAR) launched from the P2V-5 Neptune and the 68mm rockets fired from T-6s on some missions.[90] Beginning in 1964 the FAP would also employ incendiary weapons in Guinea, most notably napalm, and in quantities much higher than in Angola or Mozambique. Officially, napalm and white phosphorous was to be used "only against well-referenced military objectives and in areas of difficult penetration," but the matter nonetheless drew public scrutiny and condemnation from the United Nations.[91] Despite the international outcry against napalm and similar weapons, Portuguese authorities consistently judged that "the operational advantages far outweigh the potential political drawbacks" and continued their use for the remainder of the war.[92]

Any air arsenal, however well-stocked, would be rendered irrelevant without trained personnel to employ it. Regrettably for Portugal the FAP in Guinea consistently rated the availability of both pilots and specialists as "insufficient," with aircrew especially in chronically short supply.[94] "There was a notorious disproportion of military forces," former Chief of the Armed Forces' General Staff, General José Lemos Ferreira, later recounted: "40,000 men deployed on land, compared to 60 or 70 pilots."[95] During the FAP's first years in Guinea the aircrew census rarely surpassed 30, not nearly enough to operate the available aircraft.[96] In September 1963, for example, 19 officer and 12 enlisted pilots were present at AB2-Bissalanca to fill more than double that number of positions in assigned aircraft, including just one qualified crew for the three C-47s then on the ramp.[97] The pilot population at Bissalanca would increase to nearly 40 by the end of 1964 and peak at 67 in September 1973, but during even the war's most active phases the FAP in Guinea could call upon only half the number of pilots officially deemed necessary to operate the aircraft assigned.[98]

As a result of the enduring aircrew shortage, Portuguese pilots in the territory flew an extraordinarily high number of hours in an unusually diverse

Table 15: F-86F Munitions, Destacamento 52 (Ab2), 1963-1964 [93]

Type	Effects	Typical Targets
250kg GP bomb	• 15m blast radius • Incendiary effects to 3–6m • Residual fragmentation to 300m	• Permanent structures
50kg GP bomb	• 6–10m blast radius • Incendiary effects to 2–3m • Residual fragmentation to 180m	• Semi-permanent or temporary structures
350l napalm canister	• Area incendiary effects • 80m x 20m	• Encampments and settlements (dry season)
2.75-in. FFAR (general purpose)	• Incendiary effects against light structures (dry season) • Residual fragmentation effects	• Personnel • Encampments • Settlements
2.75-in. FFAR (high-explosive anti-tank)	• Medium armour penetration • Concrete penetration	• Armoured vehicles • Reinforced structures
0.50-in. (12.7mm) machine gun	• Incendiary effects against light structures (dry season) • Anti-personnel	• Personnel • Encampments • Settlements

repertoire of aircraft. This troubling circumstance first drew official attention from the *1ª Região Aérea* in Lisbon, the ZACVG's superior command echelon, in the summer of 1963. At that time pilots at AB2 were already logging 30 to 40 – and as many as 68 – flying hours per month, "values that must not be exceeded given that these are operational flights in a war zone," a subsequent 1st RA report cautioned.[99] Further, the 31 pilots then assigned to AB2-Bissalanca were tasked across six different airframes, requiring those aircrew to fly "simultaneously in two different types of planes, which is not considered advisable."[100] Nor was the situation likely to improve: "It is fantasy to think the officer shortage situation will change in the near future," the 1st RA headquarters conceded as early as 1963.[101] That assessment proved prophetically accurate: during one representative month later in the war – January 1970 – 16 FAP pilots in Guinea logged sorties in at least three types of aircraft, including substantially different classes such as propeller-driven and jet planes or fixed-wing aircraft and helicopters.[102] By the early 1970s the average accumulated flight time for company grade pilot officers (lieutenants and captains) in Guinea was an astonishing 2,731 hours, while pilots in the field grade ranks (major through colonel) averaged over twice that.[103] The ongoing "critical Air Force personnel problem," including a "helicopter pilot crisis" and a service-wide shortfall of 300 aircrew, was sufficiently serious that the Portuguese chiefs of staff considered doubling the combat tour length for pilots in Guinea from 24 to a staggering 48 months.[104]

But two years was more than enough for military personnel serving in the province. By all available accounts Guinea boasted the worst living, working, and fighting conditions in the entire *Ultramar*, making it the least desired of all overseas postings.[105] As one Portuguese lieutenant later recalled, "Bissau was a beastly place. We had a very common saying: 'I'm fed up with this place!'"[106] A visiting journalist echoed the sentiment, remarking that Guinea "appears to yield its charms slowly to the visitor, and the two years that the average Portuguese here spends on assignment are not enough to develop an affection. None volunteer for two more."[107] A 1967 visit by the Minister of National Defence revealed a succession of factors negatively impacting Portuguese forces' morale in Guinea, including:

- substandard quarters;
- unforeseen tour extensions, often due to a lack of replacement personnel;
- the scarcity of entertainment resources and recreational opportunities, even in the provincial capital, Bissau;
- problems negatively impacting mail delivery to and from Guinea; and
- an appalling climate and general "unhealthiness of the environment."[108]

Regarding that climate, a visiting American diplomat described a five-day springtime visit to Bissau as "hot or hotter than I experienced during a week in summer in the Amazon jungle," with temperatures routinely exceeding 100° F.[109] Some Portuguese personnel arriving by air mistook the increasing ambient heat for an onboard aircraft fire as they descended into Bissalanca, and even the PAIGC's Cuban advisors complained about the "terrible heat" of the "very harsh" climate.[110] Portuguese army officers in Bolama would while away oppressive afternoons waiting for the ceiling fan to turn on at their mess, while lower-ranking soldiers off-duty in Bissau "just drink and perspire."[111] The heat was one of the main reasons FAP pilot Egídio Lopes identified the worst day of his tour in Guinea as "the day I arrived," and the happiest, "the day I left."[112]

Despite the challenges confronting the FAP, its aircraft, and its personnel in the province, the official tone was one of optimism as war approached. "The Air Force in Guinea can point to itself as a model of organisation, well worthy of being part of an exceptional team that is in charge of the entire military defence of the Province," an *Estado Novo* account insisted proudly as the *Força Aérea* established itself in the territory.[113] That organisation, the doctrine behind it, the personnel it commanded, and the aircraft under its control would soon be put to the test of battle.

4
Eggs of Fire, Eggs of Death

Plastro garandi bim	*The large bird came*
Co si obos di fugu	*With its eggs of fire*
Plastro garandi bim	*The large bird came*
Co si obos di matança.	*With its eggs of death.*[1]

The war for Portuguese Guinea formally began on 23 January 1963, when up to 20 PAIGC militants carried out a surprise raid against the Portuguese army base at Tite, 25 kilometres across the Geba River from the provincial capital, Bissau. Attacking at daybreak, the guerrillas subjected the post to intense small arms fire for half an hour, losing three of their own but also killing one Portuguese soldier and wounding two others.[2] That same night PAIGC militants ambushed Portuguese forces in the Fulacunda region, 25 kilometres east of Tite, killing another two.[3] A subsequent guerrilla attack in the same area of south-central Guinea four days later left two more Portuguese soldiers dead and another four wounded.[4]

The war's "official" onset followed a string of increasingly explicit warnings. On 3 August 1961 – the second anniversary of the Pidjiguiti dockyard massacre – PAIGC leaders publicly announced "the passage of our national revolution from the phase of political struggle to national insurrection," simultaneously declaring the full mobilisation of the party's personnel and resources for the effort.[5] The proclamation marked the PAIGC's transition from political agitation and organisation to a more active campaign involving sabotage and harassment activities, timed in part to demonstrate solidarity with Angolan nationalists fighting their own war against Portugal.[6] Correspondingly, in July 1962 the PAIGC launched a campaign of small-scale raids – many originating from the neighbouring Republic of Guinea – to disrupt communications and commerce, discredit government authority, and effect similar instances of "direct action, but not yet armed struggle."[7] Only at a summer 1962 party assembly in Conakry did Cabral and other party leaders decide to initiate the next phase of their fight for

General view of AB2, Bissalanca, at the beginning of the war in 1963. By that time the FAP had deployed some 30 aircraft in-theatre, including the T-6s dominating the flightline. (Historical Archive of the Air Force)

liberation: direct, sustained armed opposition to Portuguese rule.[8] That December, less than a month before the PAIGC's first armed attacks, the party publicly announced "the use of all necessary means in the struggle for self-determination and independence," citing as justification Portugal's "increasingly bloody repressive actions in Guinea and Cape Verde."[9] That same month, the Portuguese internal security police (the *Polícia Internacional e de Defesa do Estado*, or PIDE) received information that armed PAIGC elements were assembling in Koundara, across the border in the Republic of Guinea; not coincidentally, those same militants would launch the Tite barracks attack, and consequently the war for Guinea, the following month.[10]

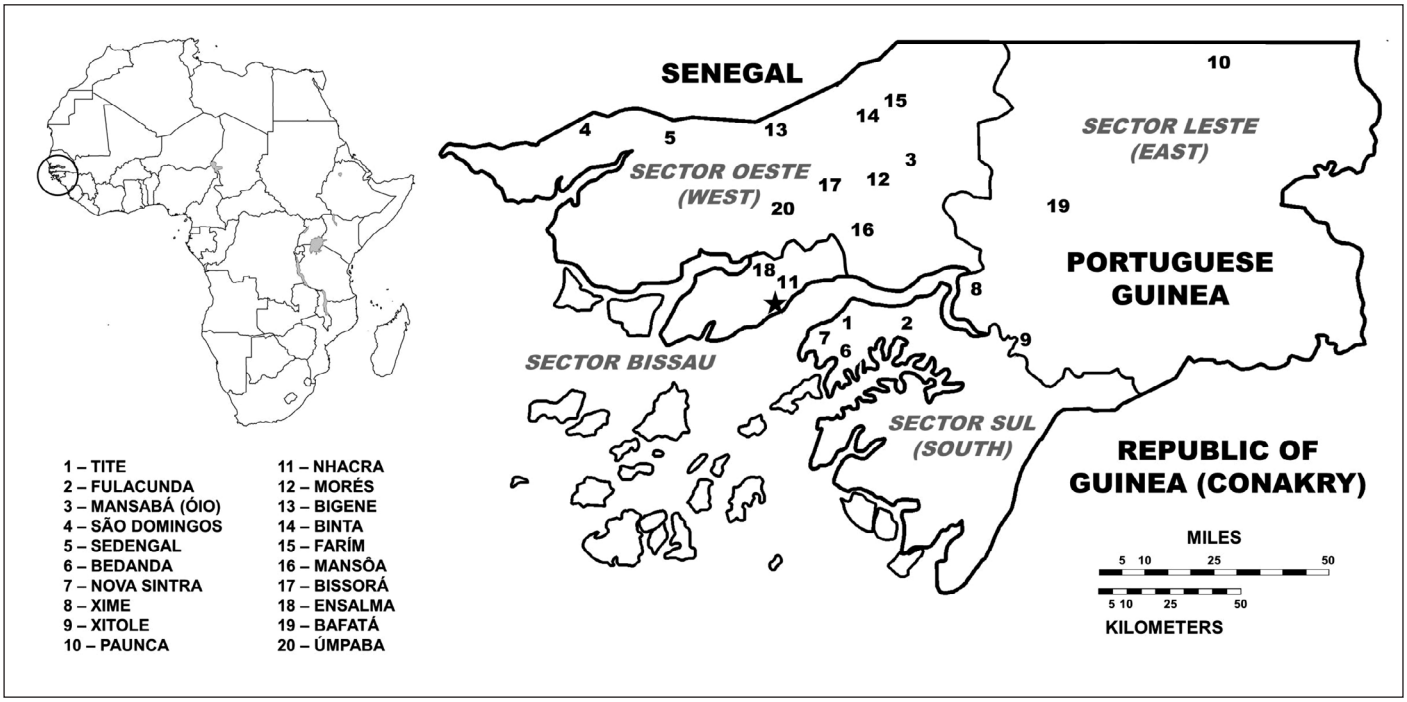
By that time Lisbon had considerably reinforced its military presence in the territory, at least in terms of ground forces. In 1958 Portugal maintained a contingent of approximately 900 military personnel in Guinea, all of them assigned to army units operating out of two main garrisons: one in the provincial capital, Bissau, and the other in the former colonial seat of Bolama, on an island of the same name just off Guinea's southern coast.[11] These token forces were augmented by an additional infantry company in 1959, and continued reinforcements brought the total number of Portuguese troops in Guinea to nearly 5,000 in late 1962 (including 354 air force personnel) distributed among 10 bases located throughout the territory.[12]

Those Portuguese airmen and support personnel fulfilled a variety of operational requirements before the outbreak of open hostilities in Guinea. The ZACVG's pre-war missions included familiarisation and tactical training, air defence, aerial intelligence gathering, and "sovereignty" flights intended to extend and reinforce government authority, especially in those areas less accessible by surface means.[13] Transport and utility aircraft were especially critical as the army sought to establish itself in the interior, but from the start these assets were in critically short supply. Just two Auster D.5 light aircraft were available when the war began, having been delivered to AB2-Bissalanca in October 1962, with five more arriving by the end of 1963.[14] The poor availability of light aircraft, otherwise ideal for surveillance and observation duties, obliged the FAP to assign other assets against those requirements. Given their superlative range and endurance, Portuguese P2V-5s typically carried the long-duration surveillance load. Only one or two were available for use over Guinea at any given time, however, and the flight from AT1-Sal added many hours' delay, so the more numerous T-6s and F-86s were tasked with performing both routine patrols and time-sensitive reconnaissance in the province.[15] The Sabre's speed, aerobatic ability, and demonstrable power also increased its value in so-called "sovereignty flights" intended to demonstrate Portugal's authority throughout the territory, even where the government maintained no regular surface presence. These missions accounted for the majority of F-86 operations in Guinea during 1962, sometimes involving high-speed passes or aerial manoeuvres intended to honour visiting dignitaries or "awe" the populace.[16]

The need to gather intelligence and deter anti-government activity was particularly acute in the border regions, but the poor quality and currency of available maps and aeronautical charts officially kept FAP aircraft well away from international borders to avoid accidental intrusions, especially near the Senegalese frontier. Cross-border incursions occurred even so, however, inevitably incurring political consequences; for example, Senegal broke off relations with Portugal following one such intrusion in July 1961, making it the first African state to do so.[17] On 21 December that same year, two FAP F-86s reportedly invaded Senegalese airspace during another border infringement.[18] Portugal acknowledged the intrusion but denied any deliberate intent, contending that a routine reconnaissance patrol had suffered a navigational fault, and the that resulting overflight had lasted no longer than 30 seconds.[19] The Republic of Guinea likewise protested repeated Portuguese violations of its sovereign airspace, including a series of alleged incidents in February and March 1962.[20]

In addition to diplomatic fallout, the FAP suffered several aircraft damaged or destroyed before open fighting even began. The first

At the start of the war, the FAP in Guinea could muster an average of three or four combat-ready F-86s. (Historical Archives of the Air Force)



PAIGC Operations, January 1963 – January 1964. (Matthew M. Hurley)

day of F-86F Sabre operations also saw the first incident, when the day's second sortie suffered a bird strike on 19 August 1961. Despite elevator and rudder damage and a bloodstained canopy, Lieutenant Teixeira Lopo managed to land successfully, but his aircraft (FAP 5361) was rendered inoperable for several weeks.[21] Ten months passed without a major reported incident, until the ZACVG's first operational loss on 29 May 1962. On that date Lieutenant José Cabaço Neves and *Furriel* (career sergeant) Manuel Soares Matos were killed in a T-6 crash following a low-level pass to investigate suspicious river traffic.[22] Another aircraft loss followed soon after, on 17 August, when an F-86 returning from a reconnaissance sortie was destroyed in a landing mishap caused by heavy rains at Bissalanca. The aircraft touched down at runway centre, overran the barrier, rolled inverted, and exploded; fortunately the pilot, *Tenente* Barbosa, managed to escape without serious injury. The accident reduced the Sabre fleet to seven, of which three to four aircraft were kept operationally ready by the time the war began in earnest at the beginning of 1963.[23]

After first striking that January, the PAIGC began to execute bolder, more substantial operations against Portuguese forces, vehicles, installations, and lines of communication. Within weeks of their inaugural attacks the party's militants were using machine guns and anti-vehicle mines in a string of increasingly destructive ambushes and infrastructure raids.[24] The insurgent attacks – primarily taking place at night – initially focused on three main target types: Portuguese lines of communications, especially roads, bridges, and river transport; military installations such as barracks and supply depots; and economic infrastructure, including Portuguese corporation trading posts and the ubiquitous *cercos* (bins for storing groundnuts slated for commercial export). The primary towns, larger villages, and major military outposts were also frequently hit by raids, sabotage, and machine gun or mortar barrages, but never occupied by the as-yet inferior guerrilla forces. Standing orders sought to rectify that shortcoming: in addition to imposing direct military and economic costs, PAIGC militants also had standing orders to collect enemy weapons and usable supplies whenever possible to resolve the disparity in relative combat power.[25]

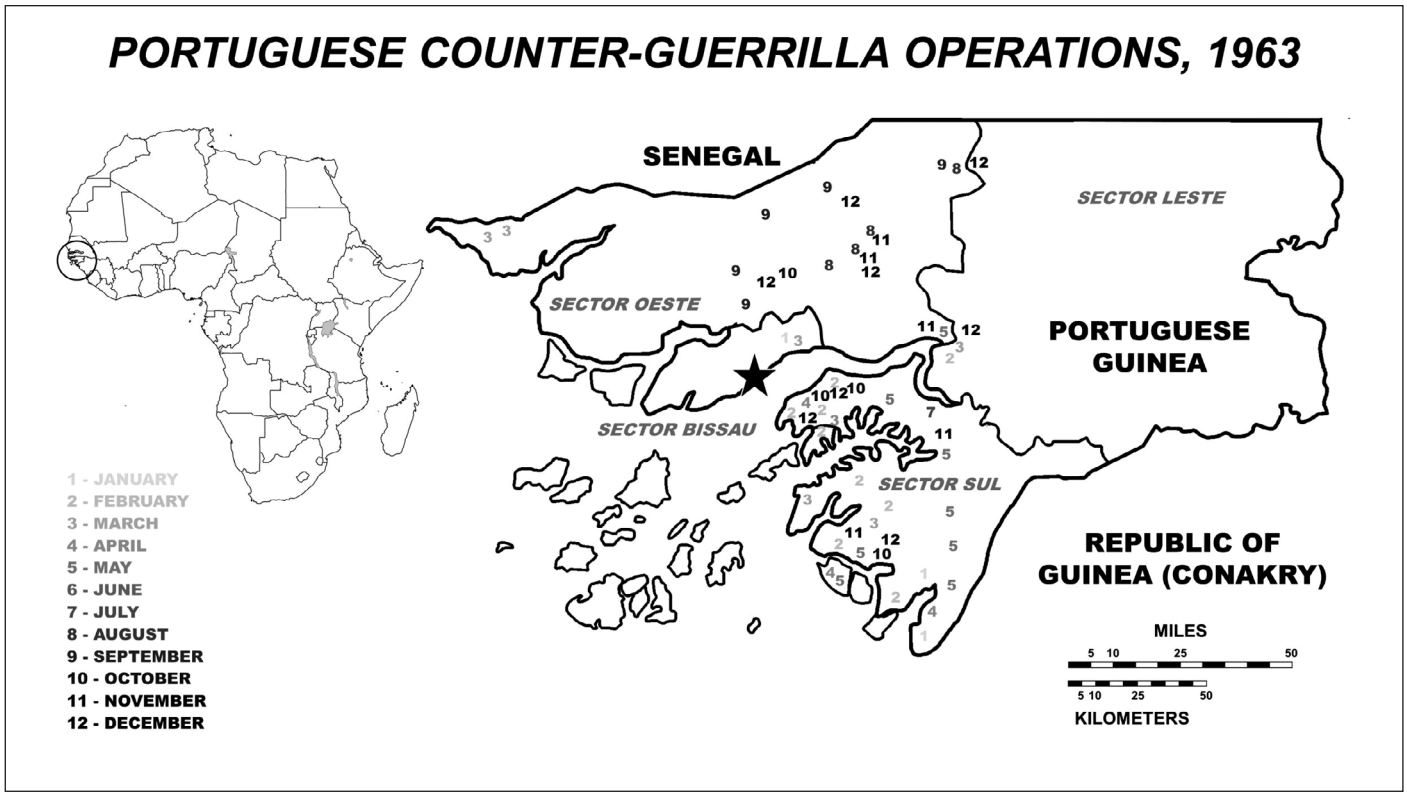
PAIGC elements also began engaging Portuguese aircraft with the means available, primarily small-calibre individual weapons, and by the end of 1963 they outrageously claimed 17 planes shot

Goryunov SG-1943 7.62mm machine gun positioned for anti-aircraft fire (left centre). The Second World War-era Soviet design was one of the first effective air defence weapons used by the PAIGC. (Albert Grandolini Collection)

down, including five on 21 February alone.[26] In fact, enemy fire directly contributed to only a single aircraft loss during that year. However, an early incidence of anti-air activity precipitated the ZACVG's "first real action of air attack" on 4 April, after an Auster observation aircraft encountered small arms fire near the village of Darsalame.[27] Portugal's response, an F-86F fighter strike, was meant "to achieve more of a psychological than actual effect," as were many early air operations in Portuguese Guinea. In those early months the FAP could do little better given the vague and fragmentary intelligence then available: "At the time, information [of events] outside the populated areas was practically non-existent," according to retired Lieutenant General António de Jesus Bispo, a pilot who served three tours in the province between 1963 and 1971. "There was no clear idea about the enemy's disposition or his order of battle, at least at the pilots' level."[28] Portugal's aerial intelligence capabilities and processes would improve as the war progressed, but unwelcome tactical and strategic surprises continued to frustrate Portuguese forces and complicate their operations nonetheless.

On 1 April 1963, just three days before the FAP's first "real" wartime action, newly arrived Commander-in-Chief of the Armed Forces of Guinea (*Comando-Chefe das Forças Armadas da Guiné*, or *CCFAG*)[29] Colonel Fernando Louro de Sousa submitted his first theatre assessment to the Portuguese defence ministry. In his report Louro de Sousa noted with concern the escalation of guerrilla activity in virtually the entire territory, with the exception of Bissau and its environs, significantly disrupting transportation and economic activity. Remnants of the Senegal-based MLG still lingered in northern Guinea, but the nearly defunct movement had been almost entirely supplanted by the PAIGC. Cabral's party, by far the better armed and prepared of the two, benefited greatly from support provided by the Republic of Guinea, other sympathetic African regimes, and increasingly, Communist Bloc nations as far afield as China. In Louro de Sousa's opinion, the PAIGC represented the "greater danger to the stability of the political situation of the province" compared to its lesser rival.[30]

Just eight days after Louro de Sousa issued his assessment, on 9 April 1963, Portuguese Guinea governor Vasco Rodrigues received another complaint from neighbouring Senegal, this one alleging four FAP aircraft had attacked the Senegalese village of Bouniak with "grenade like" bombs and machine gun fire the previous day. Although the reported damage was limited to one hut destroyed and a single injury, Senegal placed the issue before the United Nations Security Council (UNSC), and on 24 April the forum adopted Security Council Resolution 178, which formally "deplored" the alleged violation and called upon Portuguese authorities to "take whatever action may be necessary" to prevent a recurrence.[31] Portuguese authorities did acknowledge an attack on 8 April by two each FAP F-86Fs and T-6s against the Guinean village of Bunhaque, four kilometres from Bouniak, but an internal investigation prompted ZACVG commander Lieutenant Colonel Durval Serrano de Almeida to conclude no weapons had fallen on the Senegalese side of the border.[32] The episode's full truth remains elusive, however, as later ZACVG commander José Duarte Krus Abecasis (June 1965–January 1967) acknowledged that the FAP deliberately bombed and strafed an "enemy support base" in Senegal in 1963. However, the Portuguese government maintained a policy of official denial regarding such attacks, which "did not pay off," Krus Abecasis recalled, particularly whenever Senegal invited foreign journalists to view raid damage and weapons residue. Portugal's refusal to admit such attacks "only served to discredit us politically," Krus Abecasis observed, a condition exacerbated by subsequent cross-border incidents involving the Republic of Guinea as well as Senegal.[33] Regardless of the actual facts, the April 1963 episode illustrated another challenge that would continue to confound Portugal: the war, just three months old, was already drawing widespread criticism abroad and condemnation from the world's most influential international body.



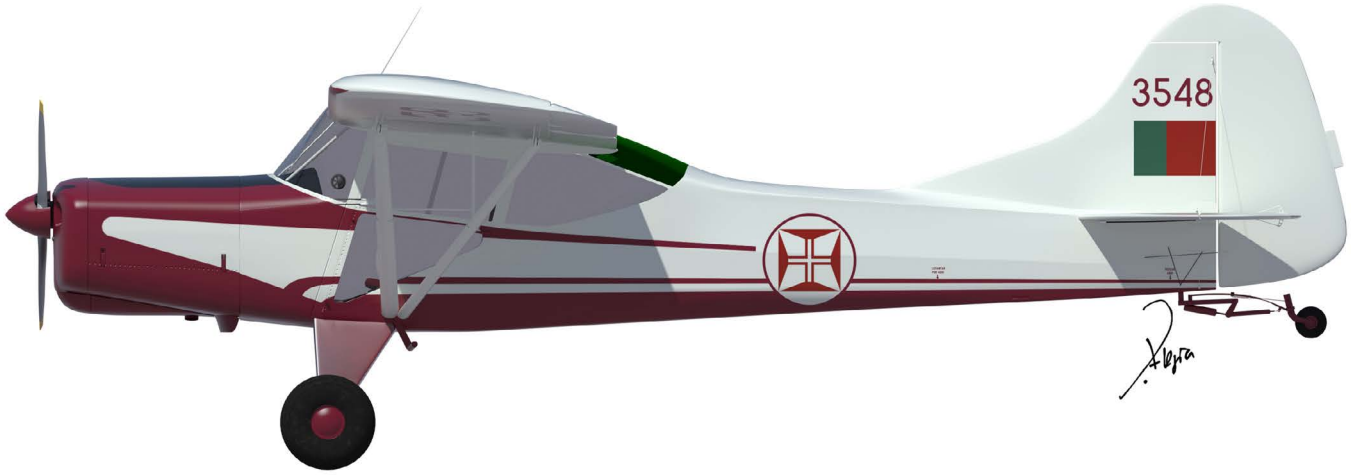
Portuguese Counter-Guerrilla Operations, 1963. (Matthew M. Hurley)

Throughout the remainder of 1963 the FAP's operations closely followed the extension of Portuguese military activity within the province, which in turn evolved in response to PAIGC initiatives. In June and July, Cabral's militants launched attacks in the Xime-Xitole region straddling the territory's southern and western sectors, leading to PAIGC expansion into central Guinea. Guerrilla operations in the Oío region of northern Guinea later that month enabled the PAIGC to extend its activity in all directions throughout the province, aided by the area's dense forest and popular predisposition to the nationalist cause among the Balanta and Oinca ethnicities residing there.[34] By that time the PAIGC's initial offensives had been so effective that Portuguese Defence Minister Gomes de Araújo was compelled to concede publicly that the guerrillas had "infested" approximately 15 percent of the territory's surface.[35] To stem the insurgent tide Portuguese forces launched a series of ground operations to fix and destroy PAIGC elements, almost always preceded by aerial observation to locate targets and monitor potential routes of militant reinforcement or escape. In addition to surveillance and reconnaissance, FAP contributions to these operations typically included preparatory raids to soften resistance, troop transport, fire support, airborne command and control, resupply, liaison, and medical evacuation.[36]

The worsening military climate in the province led the Defence Ministry to dispatch its senior uniformed official, the General Secretary of National Defence (*Secretário-Geral da Defesa Nacional*, or SGDN), to Guinea for additional assessment. That officer, General Venâncio Augusto Deslandes, thus made a return visit to the province in mid-May 1963 and submitted his conclusions on the 27th. He opened his report with the frank admission that "the present situation is indeed serious insofar as about a fifth of the territory remains in uprising," particularly in the border regions and the southern part of the territory. Deslandes further warned that an attack against Bissau would be "easy to execute, with all the political consequences that would entail."[37] The visiting Portuguese general proposed several courses of action to improve Lisbon's wartime prospects, including merging the military command structure with the political-administrative apparatus, which at the time were inexplicably divided. Deslandes would see that recommendation implemented the following year, but in 1963 political and military authority remained split between Governor Vasco Rodrigues and armed forces commander-in-chief (CCFAG) Louro de Sousa, respectively. The lack of common purpose or mutual understanding between the two officials inevitably sowed friction and needless complexity into military planning, degrading the overall counterinsurgency effort.[38]

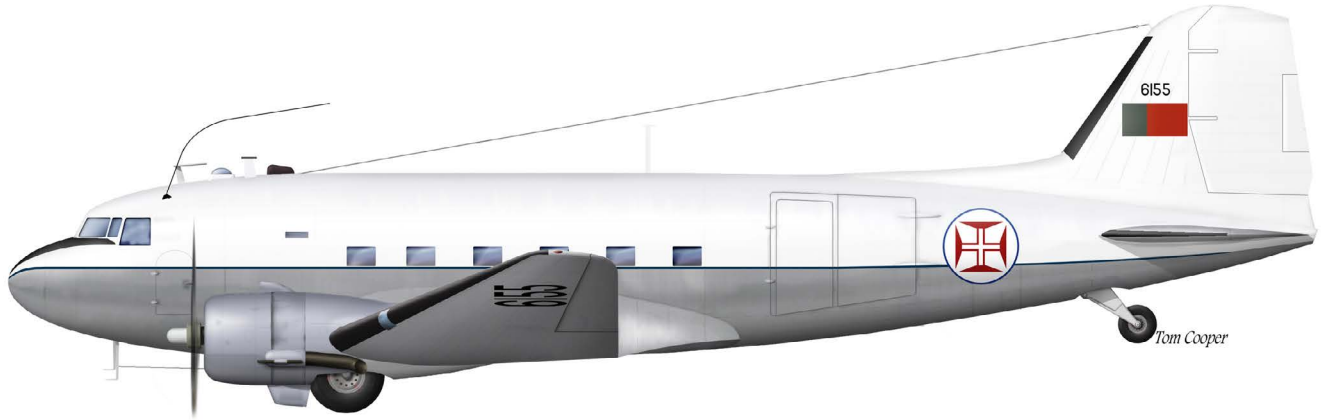
General Deslandes also recommended the employment of rapid-reaction "intervention" forces capable of quickly responding to provocations or emerging opportunities anywhere in the territory. He considered helicopters essential for this type of operation, as to anti-guerrilla activities in general, but none were available in Guinea at the time of his visit. Based in part on Deslandes' urging, the first three Alouette II helicopters – on "loan" from 94 Squadron, in Angola – arrived at AB2-Bissalanca that September.[39] These were just the precursors to Bissalanca's eventual rotary-wing fleet, and within a few years the ZACVG had enough helicopters on hand for truly meaningful air assault and heli-lift operations.

A supplementary 1963 report by the SGDN's Lieutenant Colonel Augusto Brito e Melo focused more specifically on the FAP's needs and deficiencies in Guinea. AB2-Bissalanca's air complement at that time included seven F-86Fs, eight T-6s, eight Austers, three C-47s, and a single Broussard, with a lone P2V-5 Neptune on alert at AT1-Sal.[40] The F-86 detachment presented the most pressing challenges, the entire contingent managing only eight to 23 operational sorties per month. All of the assigned Sabres were urgently overdue for replacement at the time of Brito e Melo's report in May 1963, some having surpassed their IRAN requirements by more than a year. Even when flyable, they faced significant tactical limitations: Portugal's F-86s could not communicate directly with surface forces due to incompatible radio equipment, for example, and as a result the Sabre's operational portfolio was limited to pre-planned



In 1959, the Portuguese Air Force (FAP) contracted with Beagle-Auster Aircraft to produce Auster D-4/108 and D-5/160 aircraft under license in Portugal. A total of 170 aircraft were ordered and production took place between 1960 and 1966. The FAP received 60 D-5/160 models, many of which saw service in Angola, Guinea, and Mozambique. The first arrived in Bissau by sea in late July 1961, and on 1 August Sergeant Sousa Lobato performed the first local flight in Auster number 3515. As operations in Guinea intensified, the type's limited transport capacity and difficulties operating in austere wartime conditions became evident, and within a few years it was replaced by the Dornier Do-27. The Auster's paint scheme, predominantly white with dark red along the engine cowling, wing leading edge, and lower fuselage, remained unchanged during its service in Guinea. (Artwork by Paulo Alegria)

This small, single-engine, STOL-capable utility aircraft, designed and manufactured by Germany's Dornier GmbH, proved essential to Portuguese forces in Africa. The "DO" transported equipment and supplies, moved personnel, and delivered mail to even the most remote army units. It was also a critical contributor to aerial reconnaissance, command and control, and the evacuation of wounded soldiers from the battle area. The first Do-27s arrived in Guinea in 1964 in their original *Luftwaffe* colour scheme: dark green and dark grey on the upper surfaces and blue-grey below, with the nose, wing-tips, and rudders in fluorescent orange. FAP Do-27s were sometimes, though rarely, armed with 37mm rocket tubes (18 rockets on each wing), as depicted here. (Artwork by Paulo Alegria)

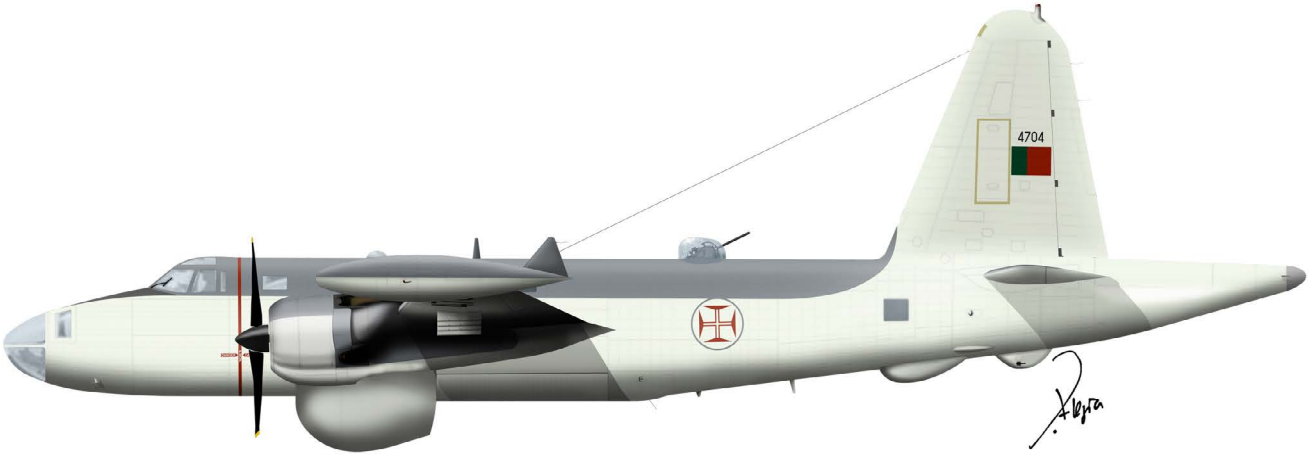


The FAP operated the Douglas C-47 Skytrain/Dakota in Guinea, Angola and Mozambique in a wide variety of missions, such as cargo and passenger transport, parachute drop, air ambulance, aerial photography, search and rescue, training, and even surface attack; in Guinea, for example, aircraft 6151 and 6155 were modified to permit its use as an improvised night bomber. The C-47 was a robust and reliable aircraft that could operate from semi-prepared airfields. These aircraft were painted according to the FAP standard for transport aircraft, in aluminium with the rear and vertical stabilisers in white, these colours separated by a blue fillet running along the fuselage, under the windows. The front section of the nose at the base of the windscreen was painted in anti-glare black. (Artwork by Tom Cooper)

The FAP leadership initially chose the Republic F-84G Thunderjet for combat service in Guinea, and the 1st Air Region command developed plans to deploy eight F-84Gs to AB2 at Bissalanca from their permanent Portuguese base at Ota. Following the 1961 outbreak of rebellion in Angola, however, those aircraft were re-routed to Luanda to reinforce Portuguese forces in that province. The 1st Air Region command then decided to send eight F-86F fighters from BA5 in Monte Real to Bissalanca to replace the diverted F-84Gs. The Thunderjet – an obsolescent design even in 1961 – had been slated for withdrawal from Portuguese service, but the FAP was forced to extend the life of this old fighter-bomber due to wartime necessity and the lack of an alternative. (Artwork by Paulo Alegria)

To avoid a diplomatic row over Portugal's use of the American-made F-84G, the Portuguese Ministry of Defence paid for Thunderjets originally supplied under the MDAP programme, as the US now considered the type "surplus" to NATO needs. In 1961, following a rigorous inspection, a dozen F-84Gs were delivered shipborne to BA9, Luanda, where they formed Squadron 93, the "Magníficos." The predominantly polished-metal scheme featured red at the engine inlet and the wingtip tanks, and a black anti-reflective strip across the top of the fuselage from the inlet to the base of the vertical stabilizer. In addition to the internal .50-cal machine guns, the F-84G could carry a variety of ordnance on external hardpoints. Initially, F-84Gs in Angola carried only 45lb (20kg) bombs, which proved unsuitable to operational demands in the province; later, 350lb (158kg) and 750lb (340kg) bombs, 2.75-inch rockets, and 350-litre napalm tanks were also employed. (Artwork by Paulo Alegria)

In 1961, the FAP deployed eight North-American F-86F Sabre fighters to Guinea's Bissalanca airfield in response to growing unrest in that African territory. These aircraft, drawn from Squadron 51 (the "Falcons") and permanently based at Monte Real airbase (BA5), arrived in Guinea that August and immediately began carrying out a variety of missions in support of Portuguese forces and colonial authorities. These fighters' noses and vertical stabilisers were painted blue to reflect the squadron's colours, while the fuselage forward of the canopy was painted in anti-reflective black. The rest of the aircraft was polished metal. These F-86s had been supplied to Portugal under the American MDAP programme on a lend-lease basis for NATO purposes, which gave the US a compelling argument to demand their withdrawal from Guinea. This occurred in 1964, when all Portuguese Sabres returned to Monte Real. (Artwork by Paulo Alegria)



The Lockheed P2V-5 Neptune was a US-made maritime patrol aircraft, which Portugal acquired second-hand from the Netherlands. In Portuguese service they were painted in a two-tone scheme, blue-grey on top surfaces with white everywhere else. Beginning in 1961 the FAP's Detachment 61 operated two P2V-5 aircraft from Cape Verde's Sal airport, where they supported military activities in the Cape Verde and Guinea Air Zone (ZACVG). The aircraft could be armed with bombs ranging from 50 to 340kg, as well as torpedoes, depth charges, and sea mines (all carried internally) or unguided rockets (installed in underwing pods). (Artwork by Paulo Alegria)

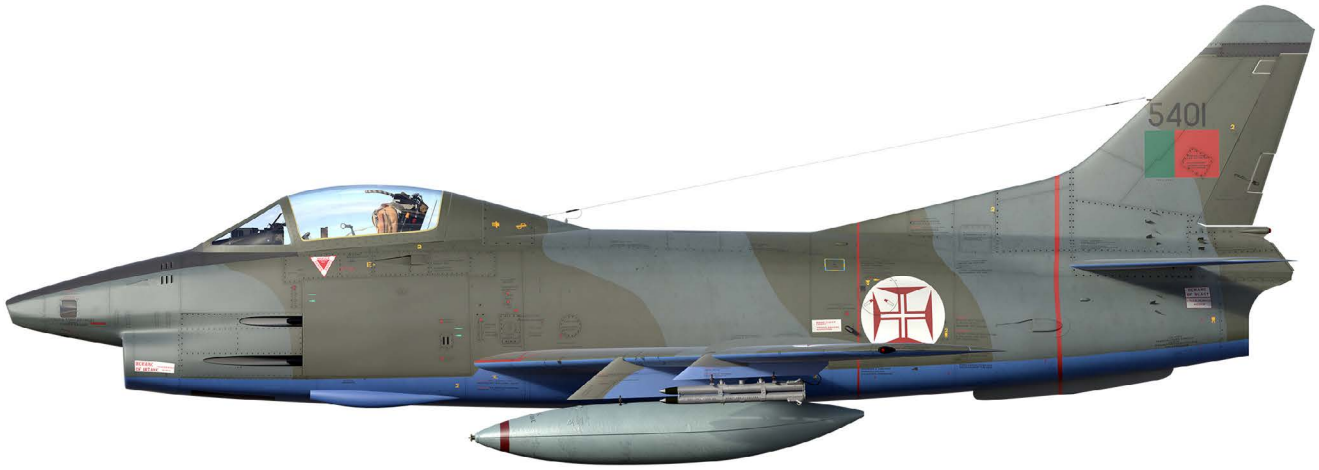
Portugal purchased the Max-Holste MH.1521 Broussard in 1960, but the type had a disastrous FAP career. Only five examples were acquired from France: one served as a source of spares while the other four were sent to AB.3 in Negage, Angola, in 1961. There the aircraft suffered several accidents and a consistently poor readiness rate. As of January 1963 a single Broussard (3301) was based at Bissalanca airfield in Guinea, but its operational life was cut short by those same factors and ended in an accident. Portuguese Broussards were finished in aluminium overall, with the top of the fuselage in white, fin- and wing-tips in blue, and a blue "hook" along the entire fuselage. (Artwork by Tom Cooper)

In Guinea, several variants of the North American T-6 were employed in fire support to ground and river operations. T-6s were frequently seen in the skies over Guinea and their ubiquity reflected several operational advantages: they had considerable range, could loiter extensively on support missions, and were relatively inexpensive to operate and maintain. Furthermore, they did not require extensive infrastructure, and could land on open terrain or roads, giving them great flexibility and allowing the deployment of T-6 detachments to forward locations. Their meagre firepower was not a major disadvantage, given that their targets were unhardened guerrilla structures or groups of enemy personnel in the open. They were very vulnerable to anti-aircraft fire, however, and when the guerrillas began using larger calibre anti-aircraft weapons the T-6s could not operate in affected areas. This T-6 carries a Browning 7.7 mm machine gun under each wing, as well as two 50kg and six 15kg bombs on the underwing hardpoints. (Artwork by Paulo Alegria)

In 1957 Portugal ordered seven SE.3130 Alouette II helicopters from the French firm Sud Aviation, and all were delivered by the end of 1958. In 1961, with the beginning of the war in Angola, two Alouette IIs were sent to BA9 in Luanda; these were reinforced by four additional craft in 1962. When the first SE.3160 Alouette IIIs arrived in Luanda in 1963, three of the older Alouette IIs were seconded to Bissalanca airfield in Guinea, where they were used for liaison, light transport, and medical evacuation missions; for the latter a stretcher could be mounted externally, as seen in this example. In 1964 FAP Alouettes II took part in Operation Trident, on Guinea's Como island complex, where for the first time a helicopter landed on a Portuguese Navy ship, the frigate *Nuno Tristão*. (Artwork by Paulo Alegria)

Portugal purchased its first 15 SE.3160 Alouettes III in 1963 to address a lack of tactical troop transport capability in its overseas territories. These aircraft were sent to Luanda, but in 1965 six additional Alouettes III were dispatched to Guinea as well. There they formed the nucleus of Squadron 122, the "Cannibals," flown by seven helicopter pilots under the command of Lt. Filipe Villalobos. With their introduction, Portuguese forces in Guinea gained a vital asset in the performance of general transport, medical evacuation, and rapid troop deployment. Squadron 122 received a further three Alouettes III in 1966 and expanded further as the conflict progressed. (Artwork by Paulo Alegria)

In 1966, Portuguese airmen in Guinea received the first French MG-151 20 mm cannons intended to arm select Alouettes III. The door-mounted guns earned an immediate reputation as one of the weapons most feared by Portugal's guerrilla foes. Firing up to 700 rounds per minute, the "heli-cannon" could employ a mixture of explosive and incendiary ammunition. Nicknamed "*Lobo Mau*" (Bad Wolf) by Portuguese airmen, these armed helicopters were most often tasked to protect other helicopters during troop landing operations, but they were sometimes used for fire support and armed reconnaissance missions as well. (Artwork by Paulo Alegria)



Acquired from West Germany in 1965, the Fiat G.91R-4 was the only Portuguese jet fighter operating in Guinea following the forced departure of the F-86F Sabre. The first eight G.91s arrived at BA12 in early 1966, and in May aircraft 5402 and 5406 made the type's inaugural flights in the province. The G.91 contingent was continually plagued by maintenance problems, parts shortfalls, and weapons shortages during the first few years of service in Guinea, but ultimately became the most potent weapon in Portugal's overseas arsenal. A light fighter-bomber and tactical reconnaissance aircraft of 1950s design, the G.91 could be outfitted in a variety of ordnance configurations, including the 350-litre napalm tanks and 2.75-inch rocket launchers pictured here. (Artwork by Paulo Alegria)

Fiat G.91s in Guinea were assigned to Squadron 121, the "Tigers," which carried out photographic and visual reconnaissance, attack, close support, and protective escort missions on behalf of ground forces. For photographic reconnaissance purposes the G.91 mounted three Vinten F95 cameras in the nose, while on fire missions it could carry a variety of ordnance on its underwing hardpoints, including general purpose (GP), demolition, and cluster bombs. The most powerful were the 750lb (340kg) bombs, but 50kg and 200kg GP bombs, as depicted here, were used far more frequently. Portugal's G.91s initially retained their *Luftwaffe* paint scheme, in dark grey-green on the upper surfaces and blue-grey on the lower ones, later changed to light grey. (Artwork by Paulo Alegria)

Napalm was employed by Portuguese aircraft in all three African theatres, but primarily in Guinea, where the G.91 was often tasked to deliver it. However, the stigma associated with the use of incendiary weapons dictated extreme care in avoiding civilian damage that could be exploited politically by the guerrillas or their international benefactors. In Guinea, napalm was used mainly during the dry season against camouflaged camps or points occupied by enemy forces, in addition to attacks against anti-aircraft positions. The G.91 could carry two 350-litre napalm tanks, one under each wing. (Artwork by Paulo Alegria)

Located in Bissalanca, near the capital of Portuguese Guinea, Portugal's primary airfield in the province began military activities as Airfield-Base 2 (AB2) in May 1961. The installation expanded rapidly following the start of combat operations against guerrilla forces in January 1963, leading to its redesignation as Air Base 12 (BA12) in 1965. With the arrival of the Fiat G.91 in 1966, the base's operational element, Operational Group 1201, comprised three squadrons: Squadron 121 (G.91 and T-6), Squadron 122 (Do-27 and C-47) and Squadron 123 (Alouette III). (José Nico collection)

Transit Aerodrome 1 (AT1) on Sal Island in Cape Verde was an important air link between metropolitan Portugal and its Overseas Territories. Its strategic location allowed the Portuguese to monitor the West African coast and easily move air assets throughout the region. This was the case of P2V-5 Neptune maritime bombers that were detached to AT1, but regularly carried out missions over Guinea. Some F-86 aircraft, while deployed to Guinea, would also stage periodic deployments to AT1 for aircrew administrative purposes. (Conceição e Silva Collection)

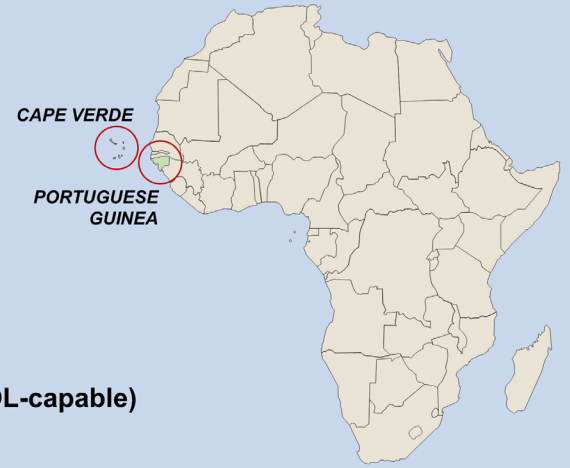
T-6 missions in Guinea were not very different from those carried out in Portugal's other African colonies, the main difference being a notably more serious anti-aircraft threat in Guinea. The T-6's slow speed and limited manoeuvrability rendered it vulnerable to even the light anti-aircraft weapons used by guerrillas at the beginning of the war, and by the end of 1964 the FAP in Guinea had lost two T-6s to hostile fire, as well as three in operational accidents. (Conceição e Silva collection)

In August 1961 eight F-86F Sabre fighters from Monte Real-based Squadron 51, the "Falcons," made the long flight to Portuguese Guinea, demonstrating the Air Force's capability to project power into that African territory. Before embarking on the deployment, the eight fighters overnighted at Montijo, where they are seen here alongside F-86s of Squadron 52, the "Roosters". (Conceição e Silva collection)

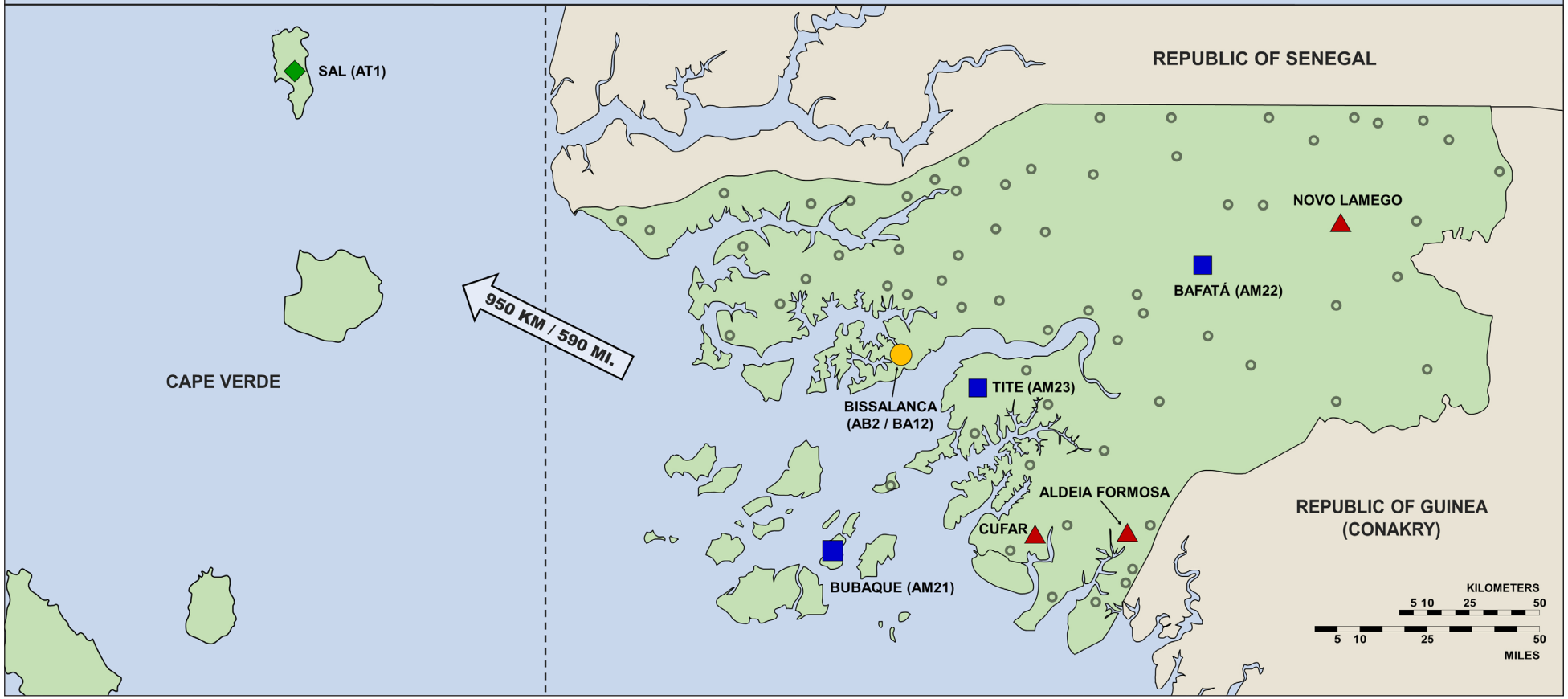
From their introduction in 1964, the Dornier Do-27s proved one of the most versatile and useful aircraft flown by the FAP in Guinea. The type was employed on a variety of missions in support of ground forces, routinely operating from rudimentary airstrips in proximity to forward units. From the mid-1960s the FAP operated an average of eight Do-27s in Guinea, where they could be deployed to various parts of the territory. (Jose Nico collection)

Força Aérea Portuguesa facilities

Portuguese Guinea and Cape Verde, 1961-1975



- Air base (*Base Aérea*; until 1965, "Airfield" or *Aeródromo-Base*)
- Manouvre airfield (*Aeródromo de Manobra*)
- Auxiliary or emergency airfield
- Transit airfield (*Aeródromo de Trânsito*)
- Forward airstrip (unimproved, STOL-capable)



(Map by Matthew M. Hurley)

missions, leaving close support to the more vulnerable and lightly armed T-6. Brito e Melo also highlighted continued manpower troubles, especially the lack of experience and training among T-6 crews, and reiterated the urgent requirement for helicopters in theatre. "In the current state," Brito e Melo concluded, "air-ground coordination is deficient and, therefore, the efficiency of the air-to-ground campaign is low."[41]

Wreckage of Captain Rebelo Valente's T-6 (FAP 1694), which crashed in October 1963. (Albert Grandolini Collection)

While Deslandes and Brito e Melo drafted their reports, the FAP suffered its first combat losses in Portuguese Guinea. On 22 May 1963, as part of Operation Seta ("Arrow"), F-86s and T-6s struck PAIGC targets on the emerging guerrilla stronghold of Como Island.[42] After taking suspected machine gun fire during a strafing run, *Furriel* António Lourenço de Sousa Lobato asked his wingman, Eduardo Nuno Ricou Casals, to fly beneath him and inspect the underside of his craft for damage. Casals' T-6 broke abruptly into Lobato's propeller during the in-flight inspection, however, causing Casals' aircraft to crash, killing him; his body was recovered by Portuguese forces later that day. Lobato managed to put his damaged plane down in a rice paddy, witnessed by PAIGC militants who took the surviving Portuguese aviator prisoner almost immediately.[43] Lobato's captors took him on an impromptu tour of purported air attack damage before carting him off to Conakry, where Amílcar Cabral personally offered him immediate release in return for a statement condemning Portugal's overseas wars, a proposition the pilot refused. At the time of his crash and capture Lobato had had only three weeks remaining in his assignment to Portuguese Guinea, but he would spend the next seven years jailed first in Kindia's *Maison du Force*, then in Conakry's *La Montaigne* prison – the only Portuguese airman to become a prisoner of war in the conflict.[44]

Just nine days after Lobato began his prisoner's ordeal, on 31 May, two F-86Fs piloted by Captain Fausto Valla (FAP 5322) and 2nd Sergeant Manuel Pereira Clemente (FAP 5356) were

Another view of Captain Rebelo Valente's crashed T-6. (Albert Grandolini Collection)

A P2V-5 on Sal Island, alongside one of the FAP F-86s that sporadically deployed to Cape Verde to provide local air defence. (Touricas Collection)

flying a low-level bombing mission in the Bedanda region of southern Portuguese Guinea when both aircraft suffered shrapnel damage from one of their own 250kg bombs (some second-hand accounts claim his aircraft was struck by anti-aircraft fire).[45] The pilots immediately turned back for Bissalanca, each carrying one remaining bomb, but Fausto Valla's F-86 suffered a flame-out while 500 feet over the Geba River, forcing him to eject. Pereira Clemente managed to land at AB2 without further incident after dumping his remaining ordnance in the Geba, but Fausto Valla's jet exploded on the runway and was completely destroyed, the wreckage later recovered and deposited in Bissalanca's scrap yard.[46] Three months later, the FAP suffered one of the its deadliest losses of the war when an Auster D.160 (FAP 1694) crashed after hitting a palm tree on take-off from AB2 on 4 September; none of the three airmen aboard – Ensigns Eduardo Spínola Freitas and José Madureira Nobre, and 1st Sergeant José Pinheiro Garcia – survived.[47] The following month, on 14 October, Captain João Cardoso Rebelo Valente died when his T-6 (FAP 1694) crashed during low-level manoeuvres on a training flight in the Morés-Olossoto region of Guinea's interior.[48]

The FAP's misfortunes persisted as the sole Max Holste MH.1521 Broussard assigned to Bissalanca ended its brief wartime career that same month: the aircraft was stricken from AB2's inventory following a serious mishap, only nine months after its introduction in theatre.[49] Finally, on 4 December 1963 a second Auster stalled after take-off and crashed, killing the pilot, 2nd Sergeant André Miranda Farinha, and two FAP meteorologists, Lieutenant Austrelindo Gaspar Dias and 1st Sergeant Humberto Silva Matos.[50] All told the FAP had lost seven aircraft and seven pilots (six killed, one taken prisoner) to accidents or hostile fire during just the first year of war in Portuguese Guinea – an unsustainable loss rate given the number of planes and aircrew then available in the province.

The air force, general staff, and regional military command were also troubled by more systemic challenges confronting the FAP in Portuguese Guinea. A September 1963 presentation by CCFAG Colonel Louro de Sousa before the Superior Military Council in Lisbon highlighted an immediate need for additional aircraft. To meet support requirements for ongoing and anticipated operations, Louro de Sousa requested between 10 and 15 new (and far more capable) Alouette III helicopters to replace the three Alouette II models then at AB2-Bissalanca. He also asked for an additional 12 T-6s to augment the eight then assigned, nine Do-27s to add to the existing three, and four F-86s to reinforce the eight already present. Louro de Sousa further highlighted the inadequate aerial reconnaissance capacity available to his forces in Portuguese Guinea, a shortfall that seriously limited intelligence collection in the territory. Finally, given the fluid and fast-paced character of the PAIGC's guerrilla operations, Portugal's military commander in the province also promoted the deployment of quick reaction forces including FAP paratroops and suitable airlift – echoing General Deslandes' recommendations from earlier that year.[51]

For those assets already available in the province, serviceability continued to pose a formidable challenge. According to a 1st Air Region assessment prepared in August 1963, only half of the eight Auster aircraft assigned to Bissalanca were in operational condition, with the rest undergoing major repairs or awaiting parts. One of the four Dornier Do-27s newly delivered to Bissalanca was already rated inoperable, again for want of parts, and both the Do-27 and Auster contingents lacked the necessary servicing and operating manuals. A quarter of the T-6 fleet was also grounded for maintenance, a situation complicated by a shortage of mechanics and the need to start their engines using on-board batteries rather than external starting carts (which were unavailable locally), causing premature wear. T-6 combat effectiveness was also limited by the absence of technical information regarding the use and maintenance of the aircraft's weapons aiming sight.[52] The same assessment reported one of AB2's three C-47s was undergoing periodic overhaul at OGMA in mainland Portugal, while the others' readiness suffered from insufficient crews and the endemic lack of replacement parts. On Sal Island, the two deployed P2V-5 Neptunes also struggled with significant operational limitations, owing to poor maintenance capabilities and inadequate support resources at AT1.[53]

The 1st Air Region's report rated the eight Sabre jet fighters at Bissalanca as operationally ready,[54] with one nearing a mandatory periodic maintenance cycle, but experience had shown that the condition of the runway and parking surfaces treated the aircraft "very badly" over prolonged periods.[55] Furthermore, the F-86's gun armament was deemed "precarious" due in part to improper use and careless maintenance, requiring the replacement of some

FAP F-86 operations in Guinea had to overcome significant maintenance hurdles; for example, engines had to be returned to Portugal for overhaul after approximately 200 hours of operation. (Touricas Collection)

weapons barrels.[56] Meanwhile, F-86 engines had to be shipped to mainland Portugal for overhaul – an expensive and time-consuming endeavour – after approximately 200 hours of operation,[57] and on-site repair facilities could not be reproduced at AB2 for lack of the necessary maintenance personnel.[58]

Persistent manpower shortfalls extended beyond the lack of mechanics and the pre-existing aircrew deficit. In August 1963 the 1st Air Region Chief of Staff, Colonel José Duarte Krus Abecasis, identified an immediate need for experienced officers to fill critical yet vacant billets at AB2-Bissalanca, and highlighted the shortage of communications specialists to satisfy command and control requirements.[59] In a September presentation before the Superior Military Council, CCFAG Louro de Sousa likewise urged reinforcement of AB2's senior staff and the assignment of two FAP lieutenant colonels to fill unoccupied "designated commander" positions.[60] Finally, facilities remained a compelling need and funds were requested to improve those at AB2-Bissalanca. Louro de Sousa specifically stressed a lack of command posts, barracks, surveillance towers, and perimeter lighting. Guinea's military commander also called for the introduction of suitable radar and communication equipment to contend with any potential air incursion into Portuguese Guinea – a mounting concern given the growing aerial capabilities of unfriendly neighbouring states.[61]

Krus Abecasis also identified perhaps the most critical shortcomings in the FAP's organisation and operation: poor cooperation between the services and over-centralisation of operational command chains. He noted the inadequacy or outright absence of coordination between pilots and the surface forces they supported due to not only inadequate equipment, but the unwarranted concentration of information at the most senior levels of command. Inter-service collaboration was further complicated by communication difficulties between the territorial Headquarters Operations Centre in Bissau and the Air Zone Command Operations Centre at Bissalanca.[62] In the years to follow these issues would be resolved, at least partially, by the introduction of several new organisational mechanisms designed to improve coordination between the different services and across command echelons.

Improvements were also forthcoming in aircraft availability, thanks to reciprocal interests between Portugal and the governments of France and West Germany. Portugal and France enjoyed an increasingly close military and political relationship in the late 1950s and early 1960s, given Lisbon's open support for the French colonial war in Algeria and General de Gaulle's contentious decision to create an independent French nuclear force outside NATO control. In the early 1960s Paris urgently sought to establish a mid-Atlantic tracking station for its fledgling ballistic missile program, and the Portuguese island of Flores in the Azores Archipelago suited its needs. An accord signed on 7 April 1964 granted authorisation to construct the tracking site, giving Paris an Atlantic missile firing range stretching 2,500 km from its launch test facility at Biscarrosse, in southwest France.[63] Coupled with de Gaulle's personal conviction that French interests coincided with Portugal's continued presence in Africa, Lisbon's agreement to lease the Flores base had a positive influence on continued French military aid.[64] Consequently, France became Portugal's largest arms supplier between 1964 and 1971, with sales amounting to 700 million francs (approximately $860 million in 2021).[65] "It was not difficult for Portugal to buy war material from France," former FAP Chief of Staff (1977–1984) General José Lemos Ferreira recalled. "They never put up a problem that I know of."[66] That agreeableness took partial form in the delivery of 142 new-build Alouette III helicopters, the first of which were delivered in 1963.[67] The Alouette III would soon see extensive service in all

FAP Alouette IIIs in operation, with a Dornier Do-27 nearby. (Tiago Nóbrega Collection)

three *Ultramar* theatres and play a pivotal role in the evolving war for Guinea.

West German support to the FAP was no less vital than France's, and likewise reciprocal. By 1960 the *Bundeswehr* had identified the need for a flight training base, logistics depot, and force reconstitution facilities deep in NATO's continental "rear area," far removed from the expected European battlefields in a war against the Soviet-led Warsaw Pact. Lisbon offered to construct a purpose-built facility at Beja in southern Portugal, which opened on 21 October 1964 as *Base Aérea N.° 11* (BA11). Beja became Germany's first foreign air base since the Second World War with the activation of the *Deutsche Luftwaffenkommando Beja* the following year, and hosted regular low-level training evolutions for German tactical aircraft until the late 1980s.[68]

The Beja agreement secured Bonn's delivery of desperately needed aircraft to the FAP despite the imposition of a West German arms embargo against Portugal in 1961, following the outbreak of hostilities in Angola.[69] But as their basing negotiations neared conclusion in late 1963, the West German defence minister agreed to the delivery of 46 new and used Do-27s and 70 ex-*Luftwaffe* T-6/Harvard aircraft to Portugal at deeply discounted or offset rates – less than half price for the Dornier aircraft, and 10 percent of the T-6's original flyaway cost. Although these acquisition deals included stipulations that the aircraft would "remain in Portugal and will be used in defence of NATO interests," Lisbon was given considerable latitude to determine what constituted "Portugal," and whether or not defence of the *Ultramar* served "NATO interests." In the end Portugal interpreted these clauses to the advantage of its imperial venture and deployed such aircraft as it deemed necessary to Africa, including many of its recent German acquisitions, a subterfuge accepted with "a smile of half agreement" from the responsible authorities in Bonn. By the end of the 1960s West Germany had sold or leased more than 200 aircraft to the *Força Aérea Portuguesa*, including the Do-27s and T-6s, 40 Fiat G.91 jet strike fighters, and 15 Noratlas transports, and all four types saw extensive wartime service in Africa.[70]

Lisbon found far less willing partners in its major pre-war aircraft suppliers, the United Kingdom and United States. Between 1962 and 1964 Portugal attempted to acquire several types of British-built combat aircraft, including six Canberra B.2 medium jet bombers, 15 Hunter Mk.6 fighter-bombers, and at least a dozen Wessex or Whirlwind medium-lift helicopters (the latter a license-built variant of the American Sikorsky S-55/H-19 Chickasaw). Even after Lisbon increased its potential order to 25 Canberra bombers and up to 40 Hunter fighters – a deal worth nearly £8 million (over $70 million in 2021) – the UK government declined in accordance

Portugal tried to purchase Canberra B.2 jet bombers in the early 1960s, but due to financial and political obstacles the sale never materialised. To augment its bombing capacity, Lisbon instead sought to acquire Second World War-era B-26 Invaders. (Fred Willemsen Collection)

In 1964, Portugal was forced to withdraw its F-86s from Guinea due to American political and economic pressure. (Historical Archive of the Air Force)

with its own embargo against Portugal's overseas wars. The Canberras in particular made Britain wary, but London was initially inclined to permit the sale, favouring the expected economic benefits more than it feared the inevitable public outcry. However, the UK insisted on Lisbon's guarantee that the bombers would not be used in Africa except in case of external attack – a commitment the Portuguese were both unwilling and unable to make. In the end factors of cost, politics, and waning institutional urgency doomed the sale despite Lisbon's appeals to amorphous notions of "prestige" or "self-defence," and no additional British-built aircraft entered Portuguese service for the remainder of the conflict.[71]

The U.S. arms embargo levied against Portugal in 1961 proved equally problematic for Lisbon. American policy echoed the official German and British lines: "If the items are earmarked for NATO purposes, the Portuguese can have them. If they are intended for use in Africa, the transactions are blocked," according to a contemporaneous U.S. National Security Council memorandum. However, that same memorandum acknowledged, "This still leaves a broad fuzzy area at which some discretion is required."[72] The issue had been quietly ignored for a decade based on a secret 1951 "understanding" between Washington and Lisbon that committed the United States to permit the transfer of American-supplied arms and aircraft to Portuguese Africa,[73] and had apparently been resolved with a Portuguese assurance in 1961 that Lisbon would not undertake to use American weapons "outside the NATO area."[74] But the matter resurfaced in early 1963, when the FAP's use of American aircraft in colonial Africa began receiving attention in the U.S. media and Congress.[75] The public revelations initiated a significant rupture in US–Portuguese relations, with Portuguese Foreign Minister Alberto Franco Nogueira insisting the aircraft were necessary to deter frequent "invasions of the air space [of Portuguese Guinea] by Senegal."[76] For his part the American ambassador to Portugal, George Anderson, insisted the issue represented "a matter of principle,"[77] but Nogueira nonetheless "railed against the United States" and even suggested Lisbon might re-evaluate its NATO membership over the matter.[78] Ignoring the apparent bluster, Portugal's major NATO ally ultimately suspended deliveries of all aircraft and material promised under the Military Assistance Program, including spare parts and maintenance equipment. In addition to the F-86s, the new and more stringent embargo threatened to permanently ground the P2V-5s that had proved equally critical to Portuguese operations in Guinea; the F-84 Thunderjet, the FAP's fire support workhorse in Angola; and the DC-6 transport, its only true intercontinental airlifter.[79] This new and more powerful ultimatum forced Lisbon to accept the American demands, disband *Destacamento 52*, and return its Sabres to metropolitan Portugal by the end of 1964.[80] The F-86s' departure would leave the FAP without any jet aircraft in Guinea for nearly two years, but not before they participated in the first major Portuguese offensive of the war.

Although Portuguese authorities maintained that "All areas, population centres and means of communication are under effective control of the security forces,"[81] confidential internal assessments conceded a fifth of the territory was either under insurgent control or malleable to guerrilla influence by mid-1963.[82] This included the Como Archipelago along the southern coast of Portuguese Guinea, which had become a major centre of PAIGC activity. Following its first attacks in 1963 the PAIGC, supported by the Republic of Guinea, moved hundreds of militants and party cadres into the islands of Como, Caiar, and Catunco, and within months the nationalists' domination over the islands was so complete that the PAIGC declared an "Independent Republic of Como" (*República Independente do Como*).[83]

The trio of islands, separated by narrow channels, represented a textbook environment for guerrilla operations: three-quarters of their combined area were flooded by the tides while much of the rest was densely forested, greatly limiting vehicular traffic and thus complicating the movement and resupply of conventional forces. The region was also abundant in rice production, which simplified the guerrilla force's supply requirements considerably.[84] Geographically, the Como islands were well-positioned as a base for raids and ambushes throughout southwest Guinea, and for harassing water traffic along the southern coast and adjacent inland waterways. The growing PAIGC bases there were also ideal jumping-off points for rebel penetration into the Tombali peninsula, and from there into all of western Portuguese Guinea. Given these inherent advantages the Como islands provided a relatively secure sanctuary and staging area for as many as 400 armed PAIGC militants, reportedly accompanied by a group of 15 military advisors or observers from the Republic of Guinea (Conakry).[85] This force, led by guerrilla commander Nino Vieira, was organised into three groups encamped in a densely forested area of central Como; according to available intelligence, all were well trained (many having received military and political instruction abroad) and displayed high morale.[86] The need to eject them from Como was first raised by CCFAG Louro de Sousa in a 26 August assessment, and after nearly four months of planning

PAIGC guerrillas on Como Island. (Albert Grandolini Collection)

A PAIGC guerrilla emplacing an antipersonnel mine. (Albert Grandolini Collection)

and debate the Ministry of National Defence issued its approval for *Operação "Tridente"* on 13 December.[87]

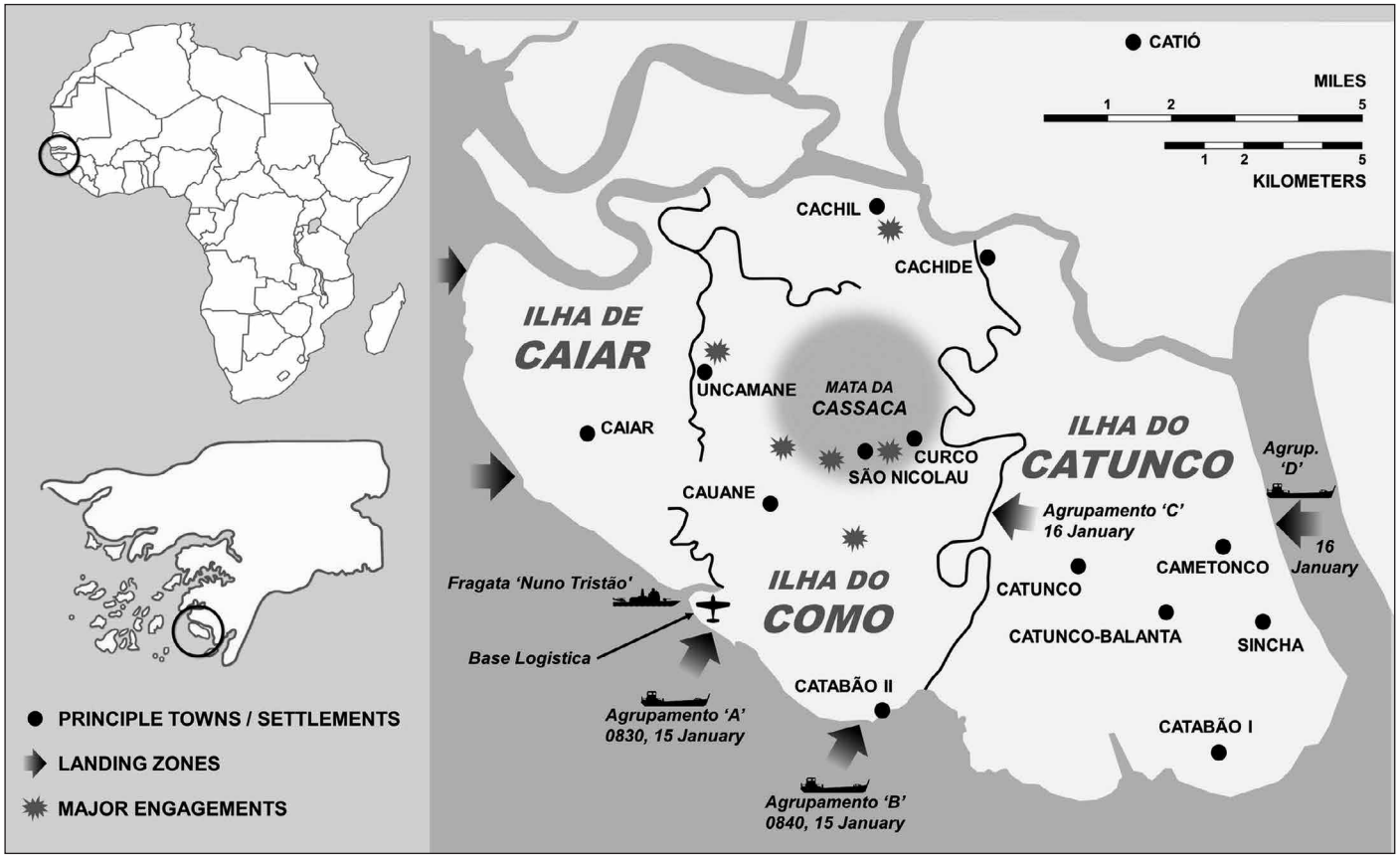
"Trident" was to be one of the largest operations conducted by Portuguese forces in all three African theatres of operations. The plan envisioned an amphibious invasion along multiple axes, supported by air and naval forces, to occupy the three Como islands while destroying or dispersing PAIGC elements located there.[88] Newly promoted *Brigadeiro* (brigadier general) Louro de Sousa designated the 490th Cavalry Battalion (BCav) as the main force element. BCav 490's three cavalry companies, numbering approximately 400 men, were augmented by smaller formations of paratroopers, conventional infantry, combat engineers, mortar and howitzer teams, commandos, and three Special Marine Detachments (*Destacamentos de Fuzileiros Especiais*, or DFEs) – in total, approximately 1,100 personnel divided into five "intervention groups."[89] The operation's plan called for three phases: in the first, Portuguese forces would make amphibious landings and river crossings into the islands on D-Day (15 January) and D+1, with air and naval fire support. Second phase operations centred around search-and-destroy missions throughout the *zona de acção* (ZA, or zone of action) to force the PAIGC to evacuate targeted regions and concentrate in the Cassacá forest of central Como. With the enemy surrounded there, the operation's third and final phase foresaw a siege to complete the guerrillas' isolation, followed by an assault to capture or annihilate the remaining militants. After completing their assigned offensive tasks, Portuguese forces would undertake long-term civil and military activities intended to permanently pacify the islands.[90]

Brigadier Louro de Sousa characterised the PAIGC forces on Como as "well-resourced and reasonably well-instructed," and equipped with a robust arsenal of individual and crew-served weapons.[91] By this time the guerrillas had also acquired experience using anti-vehicle mines and a variety of explosives.[92]

The commander-in-chief believed, however, that the guerrillas would not be able to successfully resist either the landings or the inland progress of the Portuguese invasion force.[93] His optimism was shared by the air force, whose pre-operation deliberations echoed the same opinion that the PAIGC would be unable to offer effective opposition. In this belief ZACVG commander Colonel Francisco Delgado approved the air force annex to the overall operations plan on 10 January, directing his units to:

- Secure the landing zones from enemy interference, in cooperation with the Navy;
- Provide close support to engaged forces during and after disembarking;
- Conduct aerial reconnaissance on behalf of all forces involved in the operation;
- Perform medical evacuation, emergency supply, and aerial liaison;
- Provide an airborne command post to direct tactical operations; and
- As required, conduct independent attack operations against PAIGC targets in the ZA beyond the reach of surface forces.

Before the first landings, on D-1 (14 January), FAP aircraft were directed to drop leaflets warning civilians away from planned landing zones – a necessary attempt to reduce non-combatant

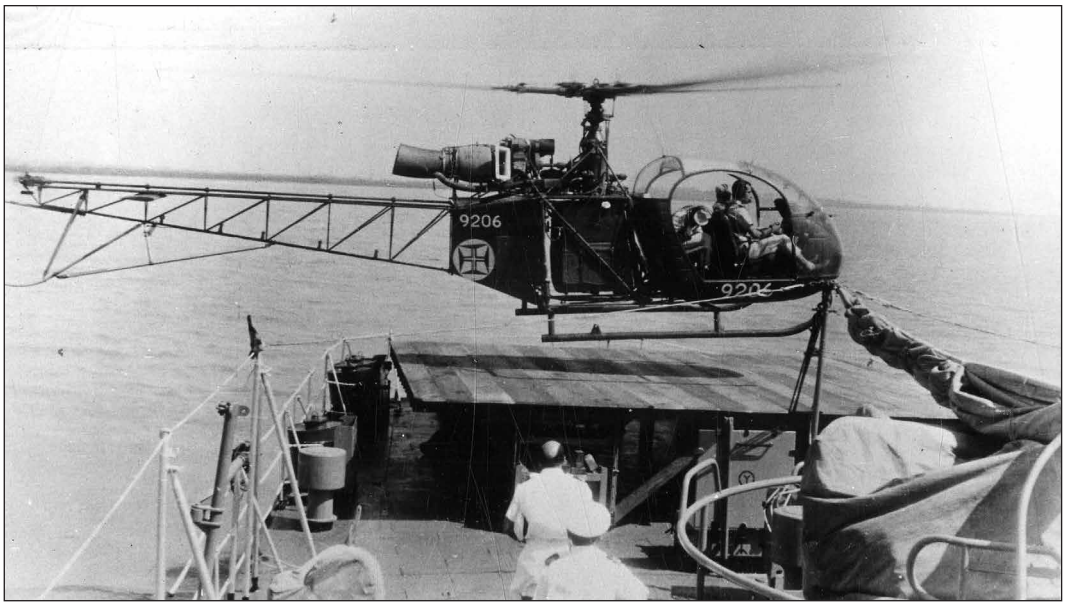


Operation Tridente, January–March 1964. (Matthew M. Hurley)

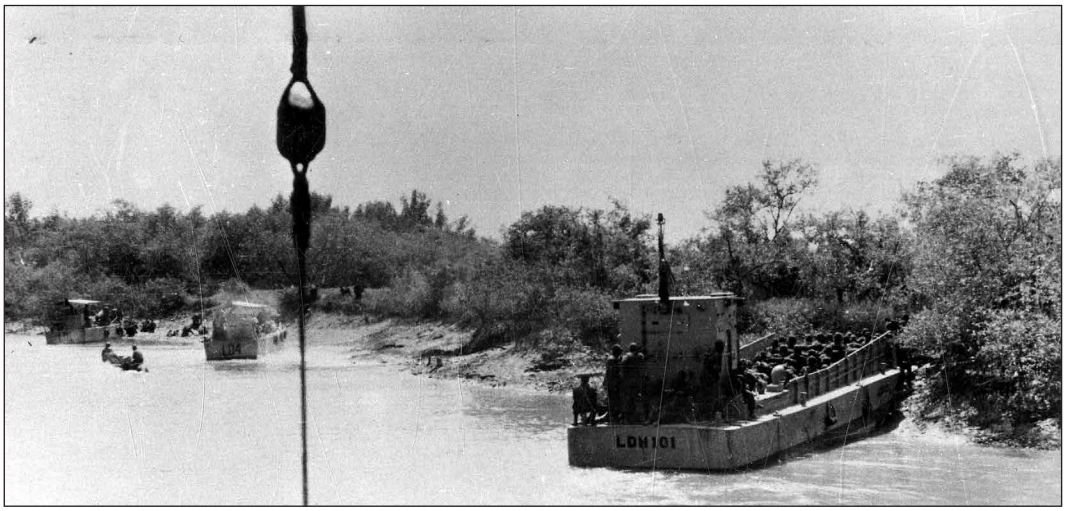
casualties, despite the loss of operational surprise these activities inevitably caused.[94]

The ZACVG commander committed "all available resources" to the operation, with the barest minimum reserved for other ongoing missions in the province.[95] The command's F-86F fighter-bombers, T-6 armed trainers, and P2V-5 maritime bombers were assigned to fire support and interdiction duties, while the Do-27, Auster, and C-47/Dakota aircraft fulfilled the myriad support roles; at least one C-47 was also pressed into service as an improvised bomber, dropping ordnance through its side door.[96] ZACVG also relied

Arrival of the Portuguese Minister aboard the frigate *Nuno Tristão*, which served as the command centre for Operation Tridente. (Navy Historical Archive)



Operation Tridente signified the first instance a FAP helicopter operated from a Portuguese Navy ship. (Navy Historical Archive)



Amphibious landing on Como Island. (Navy Historical Archive)

Landing craft approaching Como on the morning of 15 January. (Navy Historical Archive)

heavily on the three Alouette II helicopters then available, one of them (FAP 9206) being used to transport Portuguese Defence Minister General Gomes de Araújo to the operation's command centre aboard the frigate *Nuno Tristão*, where a makeshift helicopter landing platform had been constructed.[97]

The air operation began as ordered on 14 January when an Auster light aircraft initiated its leaflet drop over the islands of Como and Caiar, experiencing several instances of ineffective ground fire from the village of Catabão Segundo on Como's southern coast. Later that day T-6s fired 37mm rockets against canoes near Curco, on Como, and Poilão de Cinza on a nearby offshore island, while P2V-5s bombed watercraft and the village of Catabão Segundo, destroying several suspected PAIGC structures. Following these aerial preparations, the lead Portuguese "intervention groups," each composed of a cavalry company and special marine detachment, disembarked on Caiar and Como without significant resistance and began their northward march. Air opposition continued to remain light, with ineffectual surface fire reported by a single T-6 crew over Caiar as the first landings progressed.[98]

By D+1 (16 January) Portuguese forces had reached the villages of Caiar and Cauane, where PAIGC resistance began to stiffen. The advancing columns were also slowed by the difficult terrain, dominated by nearly impenetrable forest, swampland, and tidal mudflats accessible only through points then under the watchful control of heavily-armed PAIGC militants.[99] To support the escalating fight in central Como F-86s went into action for the first time on 18 January, strafing and bombing the forest and village of Cachil in north Como, followed by P2V-5 raids on the night of 25 January.[100] The *Força Aérea* used napalm for the first time on 29 January during F-86 raids against the Cassacá forest and the village of São Nicolau, but Portugal quickly abandoned the controversial weapon for its failure to achieve intended effects against targets in heavily forested areas. "As expected, the fire was limited to points directly touched by the liquid, not spreading as desired," ZACVG

Portuguese forces prepare to assault the tabanca of São Nicolau. (Navy Historical Archive)

commander Colonel Francisco Delgado observed in his after-action report.[101]

The immediate need to penetrate dense vegetation led to a scramble for appropriate ordnance. *Comandante* Vasco Rodrigues – the governor of Portuguese Guinea and a former naval aviator – helped devise an innovative solution using C-47 transports to deploy obsolescent anti-submarine depth charges drawn from the *Nuno Tristão*'s magazine. Technicians replaced the existing detonators with underwater demolition charges, which were triggered by a 20-second delayed fuse activated by a lanyard as the payload exited the aircraft's side door from an altitude of 3,000 feet.[102] On 1 February a C-47 dropped two 350kg "depth bombs" over Como, and on the 21st a subsequent C-47 raid unloaded 10 of these weapons on Curco and the adjacent woods. During the second mission the improvised bomber was hit by defensive surface fire, but returned to AB2-Bissalanca with minimal damage.[103] Use of these makeshift bombs reportedly caused few casualties among the PAIGC, but their massive detonations "certainly had a demoralising psychological effect on the enemy," per one Portuguese marine's recollection.[104] The same was said of the FAP P2V-5s, which returned to action during the night of 28 February, bombing the Cassacá forest and the village of Catabão Segundo, followed by a daylight Neptune raid the next day.[105] The resulting detonations "were so strong that the ground shook where we lay," a one-time *fuzileiros* commander and Como veteran recalled, adding that Portuguese troops were advised to avoid lighting fires or even smoking at night while the Neptunes were airborne, or risk errant bombing.[106]

The tightening siege around the guerrilla's forest stronghold, combined with the unrelenting aerial harassment, led to increasingly frantic calls for reinforcement or relief from PAIGC commanders in Como.[107] None was forthcoming, however, and guerrilla resistance ultimately began to crack. As March progressed Portuguese forces reported fewer hostile contacts, leading to a corresponding decrease in air activity. By the time Operation Tridente concluded on 24 March the PAIGC had withdrawn its last known organised elements from Como, leaving behind two destroyed base camps and abandoning its military and logistical support structure for the entire region.[108]

Table 16: FAP Missions by Type, Operation Tridente

Mission Type	Number flown
Attack	50
Armed reconnaissance	13
Close support	120
Visual reconnaissance	35
Airborne command post	57
Transport	495
Medical evacuation	74
Special	74
TOTAL	851

Table 17: FAP Sorties by Aircraft, Operation Tridente

Aircraft Type	Sorties Flown
F-86	73
T-6	141
Do-27	180
Auster	46
Alouette II	323
P2V-5	16
C-47	2
TOTAL	781

FAP aircrew logged 1,105 flight hours in support of Operation Tridente, each averaging approximately 40 per month. As Colonel Delgado related in his after-action report, the pace of air operations was most intense during the offensive's opening phases: more than five times the number of sorties and hours were flown during the first three weeks than the last three, in more than 11 times the number of discrete missions. The amount of cargo transported, personnel airlifted, and munitions expended reflected similarly

Table 18: FAP Summary, Operation Tridente (15 January – 24 March 1964)				
	Weeks 1–3	**Weeks 4–7**	**Weeks 8–10**	**Total**
Sorties	395	314	72	781
Missions	470	340	41	851
Personnel airlifted	425	767	285	1,477
Cargo carried (kg)	12,137	13,742	4,315	30,194
Flight hours	619:50	384:50	104:05	1,108:45
Bombs	262	92	2	356
Rockets	347	251	121	719
Cartridges	31,846	7,891	1,207	40,944
Napalm canisters	16	0	0	16

Portuguese forces faced very difficult operating conditions in Como due to the inhospitable climate and rugged terrain. (Armor Pires Mota Collection)

dramatic decreases as Operation Tridente progressed. Overall, during 71 days of air operations AB2-Bissalanca generated 781 total sorties executing 851 separate missions, which in turn airlifted 1,477 personnel, fired 719 rockets, dropped 356 bombs, and expended more than 40,000 rounds of machine gun ammunition.[109]

Sustaining the intense operational pace required "miracles of readiness and improvisation" by FAP maintenance personnel, but equipment issues surfaced nonetheless.[110] For example, Colonel Delgado reported that "the helicopters suffered extraordinary wear, not only due to the effects of sand and salinity, but also due to the large number of sorties that they performed," many of which struck the ZACVG commander as unwarranted or superfluous.[111] Following a month's operations, F-86 availability was halved for lack of replacement tires, and by the end of Operation Tridente two Sabres (FAP 5306 and 5324) were grounded due to spares shortages and wing fastener cracks.[112] The weapons available for the FAP's use also drew criticism, and not just the napalm that had proven so ineffective in Como's densely forested regions: the ZACVG had learned that the far more commonly used 50kg bombs tended to explode in the treetops, leaving personnel and structures on the forest floor unscathed.[113]

Operation Tridente also revealed shortfalls in the FAP's intra-theatre airlift capacity. Airlift was a crucial factor in sustaining the ground offensive, given the impracticality of land transport and the PAIGC's initial control of inland waterways, but despite the air force's best efforts only 30 metric tons of cargo were delivered by air during the entire campaign – on average, less than 400 grams of food, ammunition, medical supplies, mail, and other necessities per soldier per day.[114] The logistics problem was alleviated somewhat by river transport as the operation progressed, but even so Portuguese ground forces faced mounting struggles to stay provisioned while engaged in prolonged combat; some were even advised to feed themselves by harvesting rice growing on the islands or shooting local livestock.[115] Portuguese troops were also reduced to digging wells for drinking water, but local conditions yielded brackish, poor quality results.[116] Inadequate or tainted water and poor nutrition, combined with the exertion of combat and continual exposure to Guinea's notorious heat, resulted in 193 cases of disease and debilitation severe enough to warrant evacuation – nearly a fifth of the entire invasion force. In comparison, only 47 Portuguese personnel received battle wounds severe enough to justify evacuation, while nine others were killed in action.[117]

A total of six FAP aircraft were hit by PAIGC defensive fire during Operation Tridente, including a C-47 and at least three T-6s that suffered minor damage from small arms and automatic weapons.[118] Although the PAIGC's propagandists claimed three Portuguese aircraft shot down during the campaign,[119] the only substantiated loss occurred on 23 January, when a T-6 piloted by Ensign João Manuel Pité was downed near Cauane while attacking a machine gun position pinning down a group of Portuguese commandos and marines. Pité had already completed a bombing pass in the slow, piston-engined plane and was conducting his second strafing run when he was struck; his charred remains were recovered later that day by the same personnel he had died trying to support, and who had witnessed his literal downfall.[120] Another FAP pilot, *Furriel* Federico Manuel de Machado Vidal, died on 24 February when he was hit in the head by small arms fire while flying a Do-27 reconnaissance

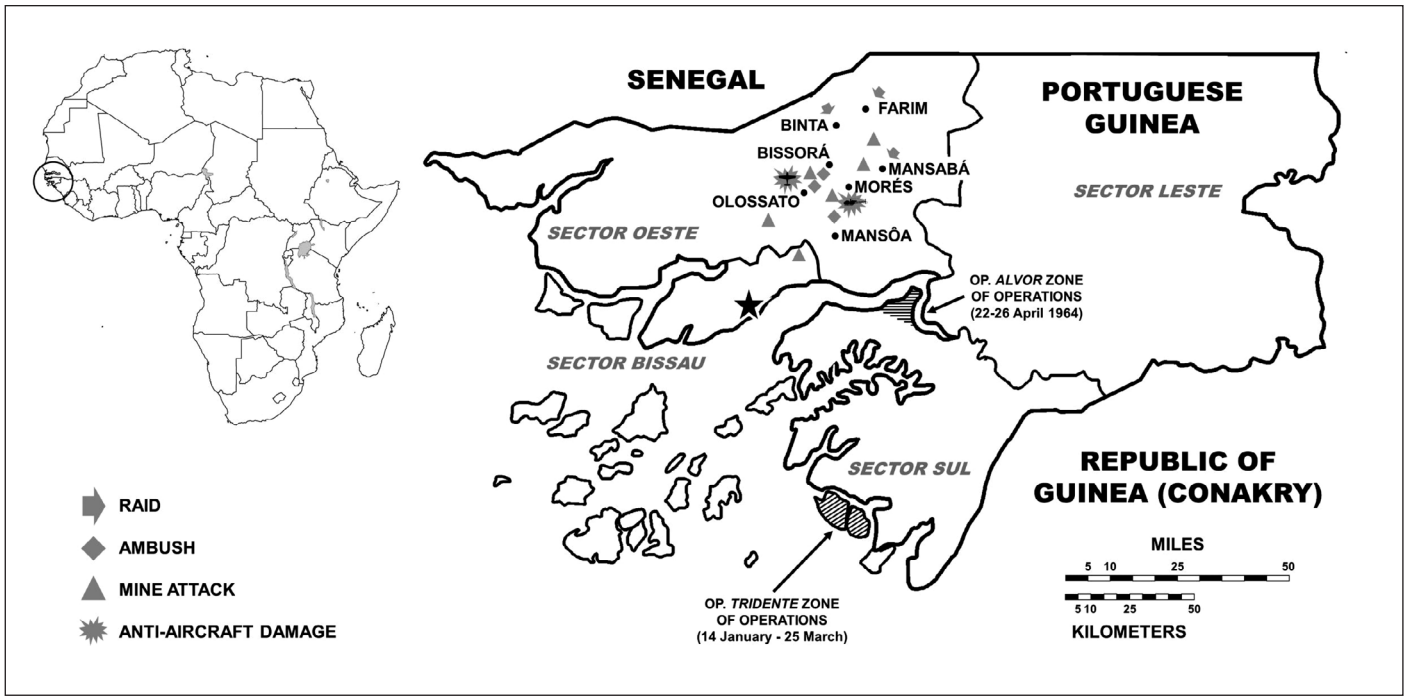
sortie just north of the Como islands. His observer, Sergeant Pinto da Rocha – fortunately an aviator himself – had to reach across the pilot's corpse from the passenger seat to operate the aircraft's single set of controls, successfully landing at Bissalanca using his left hand only.[121]

Despite Portugal's losses in the air as well as on the ground, Operation Tridente was initially regarded a success. The PAIGC was evicted (at least temporarily) from one of its most active regions, in the process losing more than 76 combatants killed, 15 wounded, and nine taken prisoner, with estimates of total insurgent casualties surpassing 200. The seizure of abandoned guerrilla base camps also yielded valuable intelligence, giving Portuguese forces a deeper insight into the PAIGC and facilitating future military planning.[122] In the long term, however, Operation Tridente has been rated "the most thankless of the entire Colonial War – a useless sacrifice."[123] Although the guerrillas had been expelled from the islands and an infantry company installed in Como's Cachil forest, these results "did not dampen the initiative of the PAIGC military," and by the summer of 1964 they resumed attacks against Portuguese forces there.[124] Worse, the incoming governor and CCFAG, *Brigadeiro* Arnaldo Schultz,[125] later withdrew the Portuguese garrison, ensuring the guerrillas' full return and eventual consolidation of Como as a "liberated zone."[126] The PAIGC thus turned tactical defeat into qualified strategic victory, while also demonstrating its willingness to defend territory against encroaching colonial forces. As a result, the islands were never again credibly threatened by the Portuguese and they remained a crucial base for insurgent operations throughout southern Guinea.[127]

Amílcar Cabral with PAIGC commanders at the Cassacá Congress in 1964. To Cabral's left is Nino Vieira, commander of FARP forces in the PAIGC's "Southern Front." (Albert Grandolini Collection)

Even as the battle for Como raged, Amílcar Cabral assembled 60 of the PAIGC's military and political leaders for a party congress in Cassacá, just "a few kilometres from the theatre of operations [and] regardless of the Portuguese artillery and aircraft, to discuss basic questions of our life and our struggle."[128] Despite the PAIGC's early military momentum and its improving material situation, several missteps threatened to cripple the movement. Many of the party's guerrilla commanders subjected their units to inexcusable risks in the pursuit of individual glory, for example, while ethnic bias among some PAIGC leaders inflamed pre-existing communal tensions and raised the ugly spectre of factionalism.[129] Some had even installed themselves as "local chiefs" and dealt with their new "subjects" on the basis of tribal, familial, or religious affiliation.[130] Cabral and

A detachment of the People's Revolutionary Armed Forces (FARP) equipped with Chinese Type 31 60mm mortars. (Albert Grandolini Collection)



PAIGC operations in the Morés region, January–February 1964. (Matthew M. Hurley)

the PAIGC leadership learned that "abominable crimes were being committed in our names, and that people had begun to flee from some of our liberated areas," and even among those who remained the behaviour of some influential party figures had cost the PAIGC substantial popular support.[131]

The party congress, which lasted for seven days beginning on 13 February, became "the congress of behaviour correction,"[132] adopting a series of far-reaching measures to restore party unity and discipline. The proposed remedies drew open defiance from the more vicious or opportunistic membership, but Cabral and his allies prevailed to impose a draconian punishment on the dissidents. Dozens were handed over to "people's courts" for judgement and several were executed, as were those who resisted arrest when confronted. Despite the purge's ruthlessness – or perhaps because of it – the Cassacá Congress succeeded in pre-empting a potentially ruinous party fracture and upholding the principle of political primacy over purely military considerations, where the two came into conflict.[133]

The PAIGC's 1964 congress also led to the reorganisation of the party's military elements into the *Forças Armadas Revolucionárias do Povo* (the "People's Revolutionary Armed Forces," abbreviated FARP).[134] The FARP was intended to operate more effectively and with greater flexibility than the regional guerrilla units the PAIGC had initially mobilised. The new force comprised three separate elements: the *Exército Popular* ("Popular Army," or EP), the full-time "regular" military arm of the PAIGC, which could operate at need throughout the province; the *Guerrilha Popular* ("People's Guerrilla," or GP), composed of locally-recruited units meant for defensive operations within the PAIGC's self-proclaimed "liberated zones;" and the *Milicia Popular* ("People's Militia," or MP), charged with protecting their own villages and performing local police duties. The party also called for the creation and training of "special military cadres" to operate the heavy weapons then entering the PAIGC's inventory, including crew-served automatic weapons, mortars, and purpose-built anti-aircraft guns.[135] To ensure political discipline and unity of effort, the congress imposed a "dual command" structure through which a senior FARP officer exercised overall control of combat operations, while a political officer (also an experienced military commander)

Arnaldo Schultz (with camera on shoulder), Governor and armed forces Commander-in-Chief in Portuguese Guinea from May 1964. (José António Viegas Collection)

ensured that military activities conformed – or at least did not conflict – with broader political considerations.[136]

With Portuguese attention concentrated on Como during the first three months of 1964, and despite its own internal struggles, the PAIGC launched additional attacks elsewhere. For example, Morés and its environs were imperative to Portuguese operations throughout the territory, as the area controlled road and river traffic into northern and western Guinea; consequently, guerrilla raids, ambushes, and mine attacks proliferated throughout the region during January and February, beginning with a 4 January assault against the Mansabá barracks and village. These attacks often elicited an aerial response despite the FAP's focus on Como, most notably on 1 February when patrolling Portuguese forces met strong PAIGC resistance in the low-lying marshlands near Morés. The stalled troops called on a pair of FAP T-6s for support; one of the responding aircraft was hit by ground fire, but the air attack successfully dislodged the PAIGC defenders, and the aircraft returned to base without further incident.[137] That same day an Alouette II helicopter conducting a MEDEVAC sortie also crash landed due to combat damage, injuring the pilot and an enlisted passenger. A recovery pilot, Lieutenant Luís Alexandre dos Reis, and a FAP mechanic, 1st Sergeant Palhota, were dropped near the helicopter's location in the Oío region, approximately 110 km north of Como. Finding the downed helicopter damaged but flyable, the rescue crew flew their wounded FAP comrades and two army casualties to Bissalanca after making essential field repairs.[138] Despite the demonstrated risks, aerial support operations in the Morés region continued through the end of the year as Portuguese forces mounted repeated attacks to reverse the PAIGC's gains in the area.[139]

As the spring of 1964 progressed the FAP participated in additional Portuguese offensives, including *Operação Alvor*[140] from 22–26 April, a battalion-sized amphibious operation on central Guinea's Gampará peninsula. Despite persisting shortages of personnel, ammunition, and spare parts, the FAP again mustered the aircraft and crews necessary to provide reconnaissance, fire support, liaison, evacuation, and airborne command and control for its counterparts on the ground. By the end of Operation Alvor Portuguese forces had successfully cleared the peninsula of PAIGC elements, taking 13 prisoner and killing an estimated 50, in at least one reported instance calling on FAP aircraft to clear opposition.[141]

Alvor would be the final named operation under Louro de Sousa's command. On 21 May Brigadier Arnaldo Schultz replaced him as CCFAG, and at the same time assumed the duties of Governor from Vasco Rodrigues.[142] Schultz was "the quintessence of the hardline, right-wing officer:" a veteran of the civil war in Spain (where he hadd served as a military observer on the Francoist side), a former Interior Minister under Salazar, and a leader in the quasi-fascist "Portuguese Youth" movement from its inception. A career infantry officer whose military service record included regimental command and a brief tour in Angola, Schultz arrived in Guinea with a personal mission – to win the war "in six months," he proclaimed[143] – and a conviction that more manpower and firepower would be sufficient to the task.

5
They Have Only the Sky

We stopped at a PAIGC school…Bombs had been dropped close by: two teachers showed me their fragments. The children sang a song, 'We have the land. The Portuguese have only the sky.'[1]

Brigadier Arnaldo Schultz faced an expanding war in Portuguese Guinea when he assumed command of the province in May 1964. Despite the positive initial outcome of Operation Tridente, PAIGC activity remained constant in the southern sector and was escalating in all others; the guerrillas' Morés offensive in particular threatened Portugal's ability to deploy forces in much of the territory.[2] An increasing number of foreign benefactors provided the PAIGC with military training, diplomatic support, sanctuary, and material aid – now including mortars, anti-aircraft machine guns, rocket-propelled grenades, and recoilless cannons – while the party's Cassacá Congress had emphatically restored insurgent unity and resolve.[3]

Schultz would soon have more forces at his disposal to regain the initiative from the PAIGC. These included an influx of additional manpower for both his ground and air forces, including air force paratroopers, and continued deliveries of the versatile Dornier Do-27 utility aircraft. As the number of aircraft assigned to the ZACVG slowly increased, manpower for all forces more than doubled between the war's outbreak and Schultz' assumption of command.[4]

Schultz's arrival also signalled a more coherent organisational approach. Under Vasco Rodrigues' governorship (1962–1964) political and military leadership had been inexplicably divided in the

PAIGC guerrilla carrying a Soviet-origin RPG-2 rocket-propelled grenade launcher. (Albert Grandolini Collection)

Table 19: Air Order of Battle, ZACVG, 1961–1964[5] (including aircraft assigned to AB2-Bissalanca and alert aircraft at AT1-Sal)

	September 1961	January 1963	May 1963	August 1963	March 1964
F-86	8	7	7	8	6
T-6	4	6	8	5	8
C-47	1	2	3	3	2
Auster	2	5	8	4	6
PV2-5	1	2	1	2	*2*
Broussard		1	1	1	
Do-27				3	7
Alouette II				3	2
Total	15	23	28	32	33

Table 20: Portuguese Military Manpower in Guinea, 1958–1964 [6]

	Oct 1958	Jan 1961	Jan 1963	Mar 1964
Army	~900	~1,200	4,985	10,367
Navy	0	0	311	893
Air Force	0	0	354	806
Total	~900	~1,200	5,650	12,066

province, with operational command devolving to Brigadier Louro de Sousa. During Schutlz's tenure, and until Portugal's final exit from Guinea, provincial authority was once again integrated within a single office and a single responsible officer. The unified command structure enabled Schultz to implement a more comprehensive strategy to reassert Portuguese control over the rebellious province.

A core component of Schultz's theatre-wide strategy echoed the *quadrillage* system earlier implemented by French forces in Algeria. This had involved dividing the territory into autonomous military sectors, with each sector or "square" occupied by a permanent garrison or outpost. The forces installed in each "square" could operate independently against enemy activity within their assigned sectors or, if necessary, call on quick reaction forces capable of responding anywhere in the province.[7] This type of strategy relied heavily on airpower, requiring extensive aerial reconnaissance to detect enemy activity as well as airlift to rapidly employ designated reaction forces. In addition, aircraft alone could provide fire support in much of the territory, given the distances involved and the difficulties of surface transport.

The *quadrícula* construct – Portugal's adaptation of the French *quadrillage* – also lent itself to increased use of FAP "free-fire" areas, designated ZLIFAs (short for *Zona de Livre Intervenção da Força Aérea*, or "air force free intervention zone"). ZLIFAs were typically established over insurgent-dominated terrain or areas known to be empty of Portuguese forces, allowing FAP aircraft to conduct pre-planned strike (ATIP) and armed reconnaissance (ATIR) missions without the need to coordinate with army or navy forces. ZLIFAs were also established over waterways and border crossings to interdict PAIGC traffic, particularly at night.[8] "Its purpose was to keep the enemy, through offensive actions, in a permanent state of insecurity and deprive him of initiative in areas less controlled by ground forces," retired FAP pilot and Guinea veteran Lieutenant General José Francisco Nico explained."[9] Demarcating a ZLIFA also reduced the risk of errant air attack against friendly surface forces, a problem that had cost at least three Portuguese lives during Operation Tridente.[10] On the other hand, ZLIFAs entailed risks of their own: some Portuguese pilots succumbed to the temptation to employ ordnance excessively or recklessly over ZLIFAs, Krus Abecasis noted a degree of "temptation" affecting some Portuguese pilots, resulting in "a certain euphoria of freedom in indiscriminate and anarchic barrages."[11] This inevitably drew protests and accusations of war criminality from the PAIGC and its international supporters, who decried the "terrorist bombardments of the Portuguese colonialists" at every opportunity.[12]

Generally speaking, however, these operational concepts suited Schultz's general strategy, which began with the establishment of a network of garrisons, outposts, and fortified villages. These strongpoints were arranged in *quadrícula* with "secure" squares occupied by autonomous companies of light infantry (*caçadores*) or calvary (*cavalaria)*. Once these bases and their environs had been secured, Portuguese forces could then advance into PAIGC-dominated areas – often preceded by FAP operations over designated ZLIFAs – to retake contested terrain and secure lines of communication for follow-on offensives. At each stage of any ground operation FAP assets also stood ready to provide on-call fire support and essential airlift, including MEDEVAC.[13]

Schultz's strategy depended on a robust heliborne assault capability, but at the time he had only three Alouette II helicopters at his disposal, and their limitations precluded their use in air assault operations.[14] To meet the growing need for vertical lift in Guinea as well as ongoing requirements for Angola, the Portuguese government ordered an additional 21 next-generation Alouette III helicopters in 1964, although none would arrive at AB2-Bissalanca for more than a year.[15] In the meantime, while trying to balance its limited assets against requirements in two active war zones, Portugal found itself embroiled in another conflict, this time in Mozambique, where independence-minded militants launched their first armed attacks in September. The FAP was now committed to a third war in a new and even more remote theatre, further exacerbating chronic shortfalls in equipment and manpower.

Further compounding the FAP's diffculties, in October 1964 Portuguese airmen in Guinea were deprived of their most potent combat aircraft as intensifying American pressure led to the withdrawal of the U.S.-provided F-86s from service in the *Ultramar*. In raw statistical terms, removing the F-86 detachment represented only a marginal decrease in operational capability, given the persistent maintenance challenges and infrastructure limitations that constrained their use. From January to August 1964 FAP Sabres flew a total of 577 sorties (430 of them operational attack

and fire support missions), or 0.3 flights per aircraft per day. In comparison, FAP T-6s flew nearly twice as many sorties (1,007) from AB2-Bissalanca during the same period.[16] When they did fly, however, the Sabres proved themselves to be the FAP's "fire support aircraft par excellence" given their speed, firepower, and consequent ability to respond, promptly and decisively, to provocations anywhere in the province.[17] But continued operational wear and combat damage took a mounting toll on the F-86 contingent, rendering half its number inoperable by mid-August.[18] This condition eased the government's decision to accede to American demands and return the Sabre detachment to metropolitan Portugal, beginning with the four inoperable aircraft, which were slated for on-site disassembly and maritime transport.[19] AB2-Bissalanca commander Lieutenant Colonel Manuel Barbeitos de Sousa flew the last Portuguese F-86 mission in Guinea himself, on 20 October 1964.[20]

West German and Portuguese pilots in Oldenburg, FRG, for G.91 training. The FAP also sent pilots to Oldenburg to train on the Sabre Mk.6, but that aircraft deal never materialised. (Air Force Historical Archive)

Lieutenant Fernando Moutinho, one of the Portuguese pilots who travelled to Germany to convert to the Fiat G.91. (Fernando Moutinho Collection)

The Sabres' withdrawal concerned Brigadier Arnoldo Schultz considerably. The new provincial Governor and theatre military commander understood the importance of airpower to his strategy, in particular the FAP's ability to provide fire support to surface forces, and he agreed with his senior air officers that the T-6s alone were insufficient to the task.[21] The 1930s-origin craft had proven *"increasingly vulnerable in the face of the constant improvement of the enemy's anti-aircraft resources," he* complained to defence minister General Gomes de Araújo, *"and even then in insufficient numbers."*[22] Schultz's air commanders recommended replacing the T-6 with more capable propeller-driven aircraft better-suited to the demands of counterinsurgency warfare, such as the F4U-4 Corsair, the AD/A-1 Skyraider; or the T-28 Trojan series of armed trainers. These proposals were never seriously entertained, however, despite the equipment's almost assured availability in France following the end of the Algerian war in 1962.[23] Rather, the Portuguese defence and aviation ministries first explored replacing the F-86s with F-84s or P2V-5s then serving in Angola.[24] When this proved impractical due to competing operational requirements and the potential diplomatic repercussions, the Portuguese government reached an agreement with the Federal Republic of Germany to purchase 65 ex-*Luftwaffe* Canadair CL-13B Sabre Mk.6 fighters. These were license-built copies of the F-86 produced in Canada, and therefore were thought less likely to draw negative U.S. attention. That hope proved unfounded, however, as Washington quickly identified the pending sale as "the most serious problem affecting US–Portuguese relations at present" and effectively vetoed the deal by invoking the terms of the original licensing agreement between the U.S. and Canada, much to Lisbon's vehement displeasure.[25]

Portugal later accepted a German offer to transfer a batch of Fiat G.91-R4 fighter-bombers, which ultimately proved better suited for air-to-ground operations over Guinea.[26] The Fiat deal satisfied the ZACVG's requirements for a suitable fighter-bomber in "a more noble and beneficial manner for Portugal," according to Foreign

Minister Nogueira, as the G.91s were offered new and at a lower cost than the second-hand Canadair Sabre 6.[27] With the issue of F-86 replacement resolved at long last, the first contingent of FAP pilots and mechanics arrived at Leipheim, West Germany, for operational training on the G.91 at the end of 1965.[28] In the interim the FAP would have to rely on the slow, venerable, vulnerable T-6 to fulfil its fire support needs over Portuguese Guinea.[29]

In that same interim, however, the PAIGC and its armed wing, the FARP, extended their activities and influence throughout nearly the entire province, including the sparsely populated eastern sector.[30] From January to November 1965 FARP raids, ambushes, and demonstrations of force intensified throughout Guinea, including some areas previously unaffected by insurgent violence. At the same time the PAIGC and FARP maintained unrelenting military pressure in the southern part of the territory, where the guerrillas retained several base areas and pressed their campaign of raid and harassment against Portuguese forces.[31] In the international political arena, the Organisation of African Unity (OAU) recognised the PAIGC as Portuguese Guinea's sole legitimate liberation movement in March 1965, a development that promised them even more international attention and aid.[32]

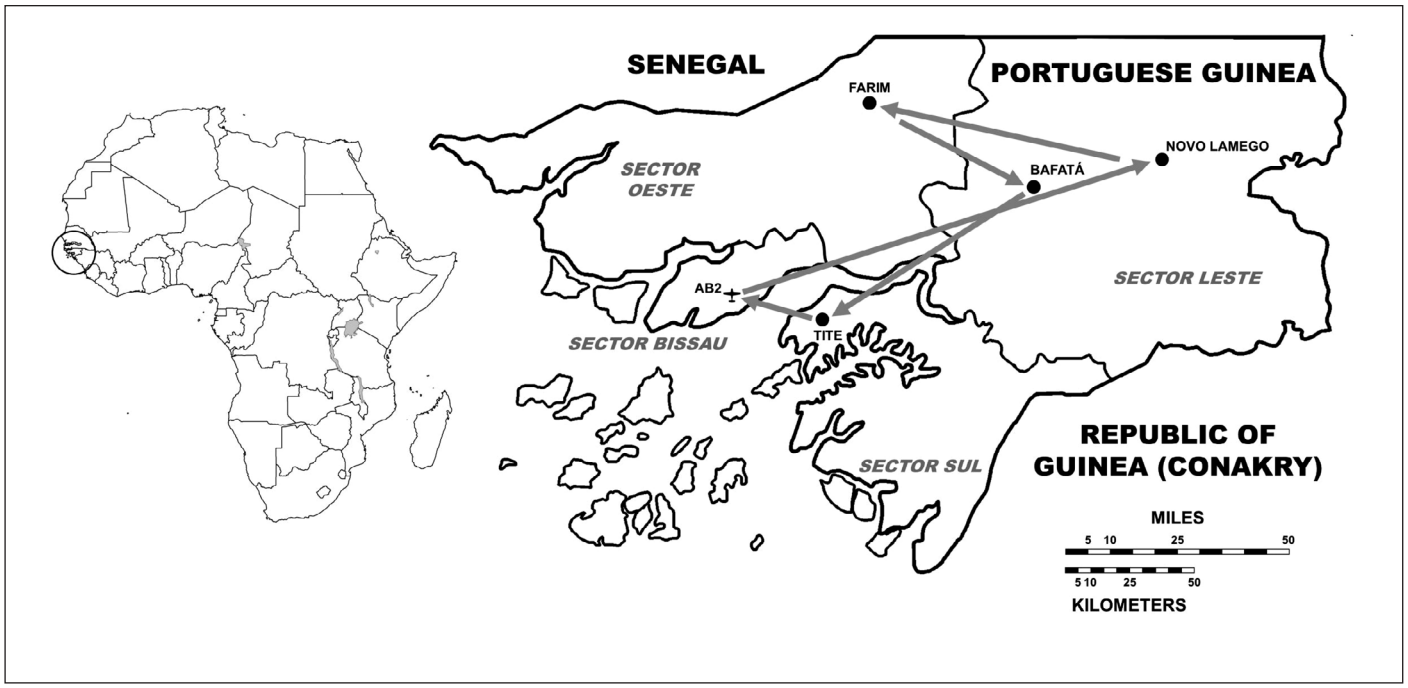
Thus, when Colonel José Duarte Krus Abecasis arrived at Bissalanca as the new commander of the *Zona Aérea de Cabo Verde e Guiné* on 6 July 1965, he immediately faced a strategic and operational conundrum. The PAIGC continued to expand and intensify their operations across Guinea, and Krus Abecasis had to allow that "initiative and surprise were advantages maintained by the enemy. He attacked where he wanted and when he wanted, and expanded his sphere of influence."[33] The situation demanded a vigorous Portuguese response, and both Krus Abecasis and Schultz well understood that such a response required a powerful air element. However, their most potent aerial assets had just been withdrawn and plans to replace them scuttled by diplomatic complications. As a result "the Air Zone lacked the means to conduct autonomous operations," according to the new ZACVG commander, while the FARP increased the frequency and power of its own attacks.[34]

The operations room at AB2-Bissalanca, where daily missions were planned and briefed. (Fernando Moutinho Collection)

However, Krus Abecasis first had to contend with an enemy within, namely the convoluted and at times counterproductive command arrangements he had inherited. During the first two years of the war, the FAP's operational relationship with its sister services in Guinea was "almost uncoordinated," characterised by haphazard, on-the-fly planning and execution at all levels. On his own official survey visit to Bissalanca two years earlier, Krus Abecasis had discovered critical "disconnects" between surface elements requesting air support and the pilots tasked with providing it. For example, urgent requests for air support were often approved by higher command echelons without first verifying aircraft and crew availability; tasked flying units were then compelled to cancel many requested missions for lack of resources, inevitably leading to confusion, recriminations, and mistrust. For their part, pilots flying close support missions almost always sortied with "no idea of the disposition of the land forces they were supporting, or their numbers, or any idea of their movement." Krus Abecasis concluded his assessment by calling for "a working system allowing for greater flexibility, more complete target knowledge, and thorough ground force understanding of aviation's possibilities and limitations."[35]

To make good on his own earlier recommendation, Krus Abecasis established a Joint Air Support Centre (*Centro Conjunto de Apoio Aéreo*, abbreviated CCAA) at Bissalanca soon after assuming command of the ZACVG. This organisation provided the first standing coordination mechanism between the different branches and streamlined the cumbersome process of prioritising requests, directing approved missions, and ensuring real-time communications between aircraft and surface forces.[36] The CCAA was complemented by a corresponding Section (*Secção Conjunta de Apoio Aéreo*, or SCAA) at Nova Lamego to support ground operations in eastern Portuguese Guinea. At the war's peak these organisations could draw from a well-rounded alert force, including a pair of jet fighters standing by at Bissalanca; two T-6s on airborne alert, with another pair sitting ground alert at a forward base; an airborne helicopter in the operations area; and additional helicopters, plus light aircraft, ready on the ramp to respond to calls for emergency transport or medical evacuation.[37] The CCAA and its subordinate *secções* established, for the first time in Guinea, an integrated and responsive mechanism for transmitting, vetting, approving, and fulfilling immediate air support requests. CCAA and SCAA utilisation also helped overcome the chronic communications difficulties between surface forces and supporting aircraft.[38]

On his 1963 visit, Krus Abecasis had also discovered that trained air-ground liaison personnel "don't exist," despite the demonstrated utility of such personnel in Korea, Southeast Asia, and elsewhere.[39] As the war in Guinea progressed, however, the ZACVG identified and assigned officers with specialised experience as Air Support Operations Officers (*Oficiais de Operações de*



C-47 Supply Circuit, 1965. (Matthew M. Hurley)

The C-47 Dakota was critical to supplying Portuguese forces dispersed throughout Guinea. (Virgílio Teixeira Collection)

Apoio Aéreo, or OOAA) and Air Support Information (i.e., intelligence) Officers (*Oficiais de Informações de Apoio Aéreo*, or OIAA). Further coordination was provided by specialised personnel embedded with Portuguese ground units, including Forward Controllers (*Controladores Avançados*) and Air Coordinators (*Coordenadores Aéreos*) who provided final targeting updates and weapons release clearance at the point of delivery. Over time and at need, these resources and personnel were grouped into "Air Support Cooperation Detachments" (*Destacamentos de Cooperação para Apoio Aéreo*, or "DC") providing fire support, reconnaissance, and tactical airlift expertise to ground force commanders at the front.[40]

Most joint operations also employed an airborne command post (*Posto de Comando Volante*, or PCV), typically a Do-27 carrying the air and surface commanders or their representatives. Crucially, these platforms also carried the communications equipment required to coordinate the activities of all participating elements, including engaged ground forces, supporting aircraft, and headquarters echelons in Bissau.[41] As if to emphasise their combat role, the PCV aircraft, codenamed *Cafeteiras* ("Coffee Pots"), were for a time assigned to Bissalanca's dedicated attack unit, *Esquadra 121*.[42]

Despite the refinement of air-ground coordination measures, difficulties remained between the ZACVG and its surface-bound counterparts. Given the dispersal of Portuguese ground forces and the PAIGC's preference for quick hit-and-run attacks, air support was often late to need and some requests were left entirely unfulfilled, which occasionally "soured relations between the Air Force and the Army." Even that negative interplay, however, represented an improvement over the air-ground compartmentalisation that characterised the war's beginning, when formal liaison channels did not yet exist.[43]

Closer inter-service coordination did not alleviate the difficulties of moving and supplying Portuguese surface forces by air. Air transport was the only option available in 85 percent of the territory, and the expansion of Portugal's provincial forces would have left many units effectively isolated without the FAP's support. However, the airlift deficit revealed during Operation Tridente persisted into Krus Abecasis' tenure. Fourteen of the 20 Do-27s then assigned were grounded for unspecified reasons, and two of BA12-Bissalanca's three C-47 aircraft were consistently unavailable due to scheduled inspection or depot maintenance in Portugal. Standing procedure directed that the C-47 return to the OGMA works at Alverca, Portugal for inspection and maintenance following every 300 hours of flight. The mandatory round trip to and from the metropole

expended 50 of those hours, leaving 250 for operations in Guinea and resulting in a maximum availability of two aircraft at any given time.[44] To minimise C-47 downtime due to servicing requirements, Krus Abecasis established a rudimentary satellite depot capability at Bissalanca for the aircraft, saving the flight hours otherwise squandered on the regular round-trip to Portugal.[45]

The new ZACVG commander also established a regular C-47 circuit servicing four major outlying garrisons, flying personnel and material to forward-deployed units at Novo Lamego, Farim, Bafatá, and Tite every other day. Smaller, STOL-capable planes then ferried supplies, personnel, and mail from those installations to smaller outposts further afield one to three times a week, although the available inventory proved insufficient to supply all units regularly without chartering light civil aircraft to augment the ZACVG's assigned airlift fleet.[46] Where Portuguese forces relied on water transport, T-6s were routinely tasked to escort launches navigating Guinea's extensive riverine network, especially in the south.[47]

Krus Abecasis then took steps to improve the FAP's night attack capability, which for the war's first two years had been limited to a handful of P2V-5 bombing sorties. While effective – particularly from a psychological perspective[48] – the Neptunes were far too few in number to dampen the PAIGC's enthusiasm for darkness. To develop a rudimentary night attack capability, Krus Abecasis looked to the U.S. Air Force's use of heavily modified C-47s as nocturnal gunships in Southeast Asia starting in December 1964.[49] "If the C-47s could become effective weapons of war, they would be. It was a question of imagination," the ZACVG commander later recounted. Having devised his own plan to weaponize the Dakota, in October 1965 he accompanied aircraft no. 6155 to the OGMA depot in Alverca, Portugal to oversee its conversion into a night-capable bomber. The modified C-47 was fitted with underwing stations for six 50kg or two 200kg bombs, and deployment tubes for 15kg aerial grenades or magnesium flares. An improvised bombsight had also been installed in the cockpit to provide some degree of precision.[50] The project, "driven solely by the initiative and under the responsibility of the ZACVG commander," proved so effective that in subsequent Alverca rotations the command's other two C-47s received similar modifications.[51] These in-house alterations gave Portuguese airmen the opportunity to perform targeted night bombing from relatively safe altitudes, and would produce noteworthy results by year's end, as part of a widening "anti-air war" over Guinea that increasingly pitted the FARP's evolving air defence capability against the ZACVG's attempts to retain its aerial freedom of action.[52]

Guerrilla leaders dating back to T.E. Lawrence have complained bitterly and repeatedly about the "air-impotence" and "helplessness" of irregulars against opposing air power, while the revolutionary luminaries Mao Zedong, Vo Nguyen Giap, and Che Guevara all ranked air defence among a guerrilla force's most rigid prerequisites.[53] Their prescriptions applied especially to Guinea, where airpower represented the "one military advantage" that gave Lisbon any realistic hope of thwarting the PAIGC's drive for independence, according to Amílcar Cabral in 1963.[54] But while Cabral and other party leaders readily conceded that airpower represented their "main difficulty,"[55] they also understood that aircraft were neither inherently invincible nor omnipotent. "We can develop many effective ways to defeat enemy airplanes," one widely distributed PAIGC manual insisted. "If the weakness and functions of airplanes are known we can avoid their strengths and exploit their weaknesses."[56]

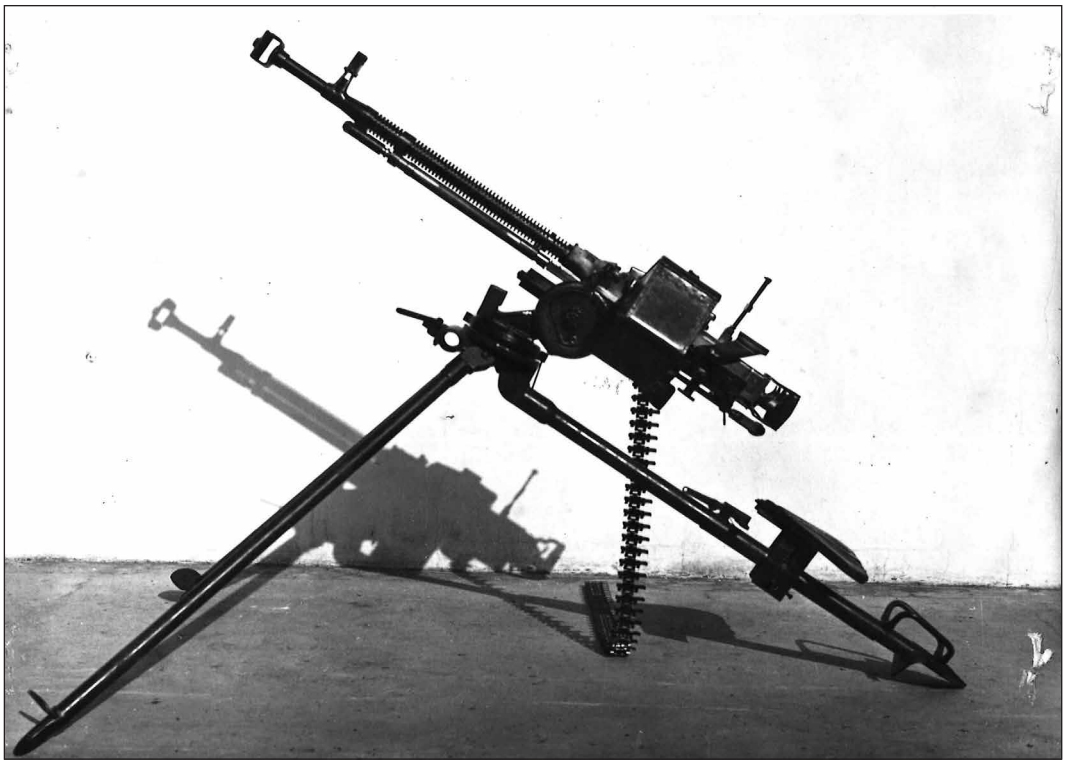
At the start of the war, however, airplanes were a mystifying terror to most PAIGC militants and supporters, until that time thoroughly unused to aviation. For example, following a years' worth of Portuguese air operations around Morés, villagers began evacuating their settlements there and fleeing into the extensive Oío forest, contrary to the PAIGC's interests and direction.[57] "You have to reckon with the fact that people in this country are afraid of the forest," one party cadre explained, but the cumulative effects of the unpredictable and increasingly devastating air attacks ultimately trumped cultural proscriptions and drove them into an object of more familiar fear.[58] Airpower remained the most dreaded – and despised – expression of colonial authority for the war's duration,[59] and it was also among the most demoralising: "The white man has guns and airplanes," PAIGC political organisers continued to hear from the peasants they tried to win over to the nationalist cause. "How are we every going to make him leave our country?"[60]

Cabral and his lieutenants had sought an answer to that question since the fighting began. Among the earliest and simplest air defence measures adopted by the PAIGC were the varied passive techniques pioneered by their guerrilla predecessors in Malaya, Indochina, and elsewhere. For instance, PAIGC militants and friendly civilians in the "liberated zones" were advised or directed to employ natural foliage, camouflage, frequent movement, and the cover of darkness to shield themselves from Portuguese aircraft.[61] Open areas were avoided as a rule, and when it was necessary to traverse them ingenious measures were taken to ensure adequate concealment from aerial observation.[62] Farmers, for example, constructed tree branch "umbrellas" to hide under whenever they heard aircraft approaching the *bolanhas* where they grew rice, while guerrillas and inhabitants alike soon recognised that simply leaning against a tree or standing still could also impede detection from the air.[63] Typically clothed in dark attire, guerrillas also found that they could sometimes confuse Portuguese aircrew by lying down among burned tree trunks in areas subjected to earlier attack.[64] In wetlands or near bodies of water, militants sometimes hid from aircraft by immersing themselves and breathing through improvised reeds.[65]

Villagers in PAIGC-dominated areas also dug extensive trenches to protect against air attack, aided by a rudimentary warning system consisting of drums used to announce approaching aircraft from settlement to settlement.[66] And, as with insurgent movements in other tropical environments, the PAIGC based most of its militants in a network of jungle and forest encampments to further complicate Portuguese efforts to locate and target them from the air.[67] Even so, frequent movement soon became an immutable fact of life for Cabral's guerrillas;[68] as one PAIGC militant recalled, "Every time that we settle down somewhere we prepare another place at the same time in expectation of an imminent move. That is one of the rules of war: never give the enemy the opportunity to locate your installations."[69] One insurgent directive, captured by Portuguese forces later in the war, reiterated Cabral's standing order that PAIGC units remain in a given area no longer than two consecutive days. If not, they could expect to be punished – first by the Portuguese air force, and then by the PAIGC high command – for their complacency.[70]

Other passive defence measures evolved as the PAIGC gained experience in guerrilla operations and sustainment. When engaged against Portuguese troops, PAIGC guerrillas sometimes resorted to a tactic known as "hugging the enemy," fighting from positions so close to Portuguese forces that "the *tugas* cannot drop their bombs with certainty."[71] On at least one occasion the tactic proved so successful that, according to PAIGC commander "Nino" Vieira, "we were so close to the enemy lines that the colonialist air force bombed its own forces by mistake."[72] To further minimise the chances of aerial detection and destruction, many activities supporting the PAIGC

or friendly populations, such as rice cultivation, took place largely at night.[73] The PAIGC's armed units also preferred to operate in darkness to prevent interference by Portuguese aircraft. "The night was the enemy's great ally," Krus Abecasis complained when he became ZACVG commander in 1965. "They infiltrated our territory at night, assembled their ambushes and planted mines at night; shot up boats, camps and settlements at night; they met and deliberated at night…All this 'bugaboo' because the Air Force did not fly at night!"[74]



Soviet-designed DShK 12.7mm machine gun. (National Defence Archive)

PAIGC guerrillas receiving instruction in DShK machine gun use. (National Defence Archive)

To be effective, passive air defence measures had to be understood and implemented across the widest possible audience, so as the war progressed the PAIGC made increasingly insistent efforts to indoctrinate both militants and civilians to the dangers of Portuguese airpower. Frequent reminders of the ever-present threat littered PAIGC communiques for the duration of the war, often coupled with gruesome photographs of casualties and damage, inflated claims of downed Portuguese aircraft, and calls for more aggressive defence on the part of FARP fighters.[75] The party mobilised mobile cadres and village committees for a mass civil defence education campaign, both to reduce popular fear of air attack and to facilitate the preparation of shelters, trenches, and forest sanctuaries.[76] Even insurgent schoolbooks joined the chorus of protest and caution: a primary school reader produced for use in PAIGC-run schools, for example, featured a lesson concerning the effects of air operations in the vicinity of Morés, while another about a fisherman named "Aliu" warned children of the twin riverine dangers of crocodiles and Portuguese bombers.[77]

Amílcar Cabral attributed a great deal of success to some of the PAIGC's passive air defence measures, crediting them with preventing "excessive loss of life among our peoples" as Portuguese air attacks intensified.[78] Despite the effectiveness of these methods, however, only active air defences could physically attrit Portuguese airpower or deter air operations over the PAIGC's so-called "liberated zones." The physical destruction of enemy aircraft also avoided unnecessary guerrilla losses while frustrating enemy firepower and mobility, especially in the inhospitable terrain characteristic of Portuguese Guinea. But the party also recognised the psychological value of air defence, for in Guinea as elsewhere during the 1960s, aircraft and bombs represented the "imperialist" enemy's technological dominance as starkly as caravels and muskets had in the sixteenth century. Shooting down such a potent symbol of wealth and military power visibly diminished Portugal's imperial mystique as well as its arsenal. Retired FAP general, fighter pilot, and Guinea veteran José Francisco Nico concurred, describing such an achievement as "the most desirable trophy" at "the top spot of the guerrilla podium."[79]

While providing a vigorous morale boost to guerrillas, the destruction of enemy aircraft also shook that enemy's sense of superiority and invulnerability. Each aircraft loss potentially

undermined aircrew confidence and often led to self-induced "mission suppression" – i.e., "pilot behaviours which may result in a degradation in efficiency of the attack," such as rushed weapons delivery or a preoccupation with threat avoidance to the detriment of tactical performance.[80] The destruction of even a single aircraft also reduced the ZACVG's operational inventory by as much as five percent, given the size and serviceability of the fleet deployed at AB2-Bissalanca, and the loss of just three pilots would literally decimate the aviator community there.[81] It was no surprise, then, that the PAIGC encouraged all possible armed resistance to encroaching aircraft, prompting Portuguese pilots to quip that "the enemy threw up everything he had at hand,"[82] including RPG-2 and RPG-7 rocket-propelled grenades (RPGs).[83] The "extraordinarily high" number of planes hit by small arms fire and other infantry weapons testified further to the PAIGC's policy of actively opposing Portuguese aircraft with any means available.[84] Its longer-term aim, however, was to improve and expand those means to exact a legitimately painful toll against its airborne tormenters.

The PAIGC turned to its regional and international sponsors to acquire the weapons and expertise necessary to mount an effective air defence, and in short order increasing volumes of heavier weapons began appearing on the battlefields of Portuguese Guinea.[85] These included tripod-mounted 7.62mm anti-aircraft machine guns (AAMGs), primarily the Soviet SG-43 Goryunov type, which Portuguese authorities first reported in theatre on 18 June 1963.[86] However, those weapons were "of little help, and couldn't fend off even the old WWII T-6G *Harvard*," according to PAIGC information chief and political director José Araújo; against more modern jet aircraft, he added, the 7.62mm guns "had no chance."[87]

By mid-1964 damage sustained by returning FAP aircraft revealed the use of 12.7mm (.50-cal.) air defence weapons, among them the Soviet-designed DShK (*Degtyaryova-Shpagina Krupnokaliberny* or "Degtyarov-Shpagin large-calibre") AAMG.[88] Thus armed, PAIGC surface fire damaged 42 Portuguese aircraft during the first eight months of 1964, or slightly less than one in every hundred sorties.[89] The T-6 fleet suffered the most combat damage, receiving 60 percent of the defensive fire.[90] Intense PAIGC anti-air activity continued into 1965, with at least 57 hits reported by FAP aircrew from January through November that year.[91]

As more effective air defence armament proliferated among its guerrilla units, the PAIGC created specialised weapons teams that could either act independently or be attached to larger formations for major operations.[94] This complemented the party's ongoing military restructuring program, adopted by the Cassacá Congress the previous spring. At the beginning of 1965 the party reorganised its "regular" military wing, the FARP, into autonomous *grupos* of 17–25 combatants each; two *grupos* formed a *bi-grupo*, which soon became the FARP's standard tactical formation. Each *bi-grupo* could be reinforced by air defence elements or other special weapons teams employing mortars, RPGs, recoilless cannons, or other crew-served weapons. The *Guerrilha Popular* and *Milicia Popular* also underwent reorganisation but retained their auxiliary nature and local defensive emphasis.[95] Those local forces were particularly important to maintaining a semblance of sovereignty in the PAIGC's "liberated zones," a key pillar of its political and propaganda program within the province and abroad, but to credibly claim authority in those regions the party had to demonstrate its ability to actually defend them from the "criminal action of the barbarian Portuguese Air Force."[96]

Table 21: Combat Damage by Aircraft Type, January–August 1964[92]

	Sorties	A/C Hit	% of A/C Hit	% of Sorties Hit
F-86	577	7	16	1.21
T-6	1,007	25	60	2.48
Auster	1,204	2	5	0.16
Do-27	1,221	2	5	0.16
C-47	210	3	7	1.43
Alouette II	393	3	7	0.76
TOTAL	4,682	42	100	0.90 (avg.)

Table 22: PAIGC Anti-Aircraft Weaponry, 1963-1970[93]

Type(s)	Calibre	Maximum Range	Effective Range	Anti-Air Range	Observed
SG-43, Type 53/57	7.62mm	3,500m	1,000m	800m	1963
DShK	12.7mm	6,500m	1,500m	1,000m	1964
ZPU-1, ZPU-2, ZPU-4	14.5mm	8,000m	5,000m	1,400m	after 1965*
M1939, M38	37mm	9,500m	6,700m	3,000m	1970

*Depending on first-hand accounts, 14.5mm weapons appeared in Guinea as early as 1965 (José Krus Abecasis in Bordo de Ataque), or as late as 1968 (per José Francisco Nico, A batalha do Quitafine).

The first serious test of the PAIGC's ability to shield "liberated" territory from air attack occurred in the Cantanhez Peninsula of southern Portuguese Guinea. On 6 December 1965, a FAP C-47 received a "veritable barrage" of antiaircraft fire while flying over southern Guinea, at night and at an altitude of 5,000ft. Based on the crew's reporting, the height, rate, and volume of observed tracer fire suggested the use of heavier anti-aircraft weaponry, initially thought to be 20mm.[97] More likely, the C-47 crew had witnessed the tracers from 12.7mm machine gun fire, but 14.5mm ZPU-series anti-aircraft guns had also been reported in the province as early as 1965, though only definitively confirmed in early 1968.[98] The ZPU, for *zenitnaya pulemotnaya ustanovka* ("anti-aircraft machine gun mount") featured one, two, or four Vladimirov KPV guns which could effectively engage aircraft

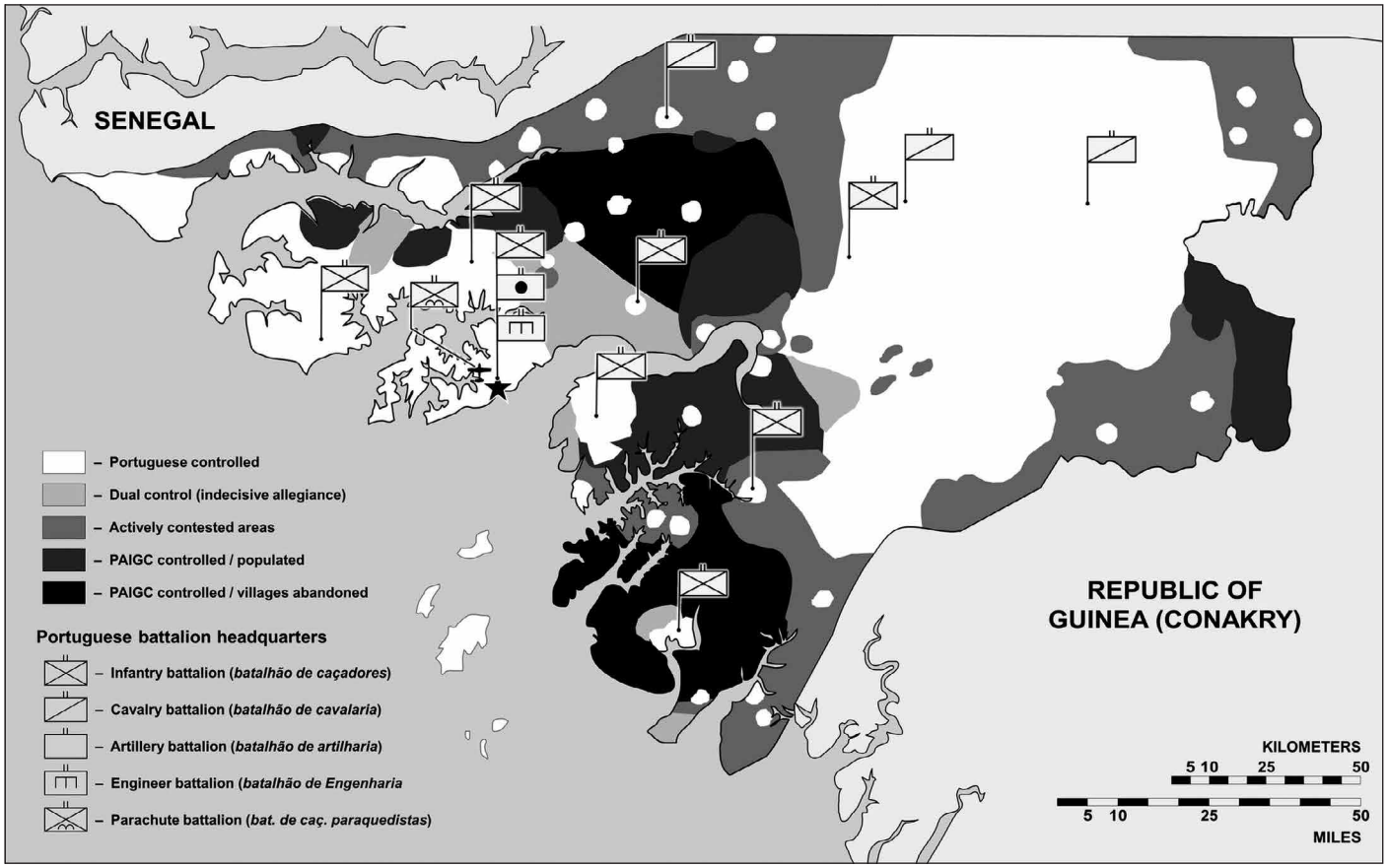
at ranges of nearly a mile and altitudes of up to 4,500 feet. Each KPV barrel could fire 600 rounds per minute, with a quad-mounted ZPU-4 spitting out 40 rounds per second.[99]

Whatever the weapons used on 6 December, the sheer volume of anti-aircraft fire directed against the embattled aircraft indicated "Air superiority in its direct implications was at stake," as Krus Abecasis later recalled. "Our freedom of action was severely curtailed in parts of the south…The enemy had escalated and challenged the Air Force's aerial dominance especially, even though they did not have any aircraft."[100] Even so, the incident over Cantanhez on 6 December had provided "an opportunity to activate our strategic plan, and without delay," he added enthusiastically. "The Air Force would respond to the challenge!"[101]

Krus Abacasis' staff had prepared plans for just such a contingency, and on 10 December CCFAG Brigadier Schultz approved their proposal for *Operação Resgate* ("Operation Rescue"); the ZACVG commander chose the operation name based on his intent to "restore our freedom of action in the skies of Guinea."[102] On the 15th, ZACVG Operations Order 11/65 was published and disseminated to all participants, setting H-Hour as 2000 local time on 17 December. Schultz and Krus Abecasis hoped to provoke PAIGC air defenders in the Cantanhez area to once more reveal themselves by extravagant nighttime fire, as they had against the C-47 on 6 December, but this time the Portuguese would answer with the full range of their offensive capabilities.[103] Two modified C-47s, 12 T-6s, three Do-27s (later increased to five), one of the first Alouette III helicopters in theatre, and two P2V-5 were allocated to the operation;[104] the Neptunes had arrived at Bissalanca from Sal Island on 12 December, bringing with them 325kg demolition bombs for use in the operation.[105]

Resgate began on schedule at 1955, 17 December, as a single C-47 approached the suspected anti-aircraft positions at an altitude of 4,500 feet, its navigation lights out. The aircraft served three purposes. First, it acted as "essential bait," the noise of its approach intended to elicit a violent reaction from insurgent anti-aircraft sites, exposing their positions. Second, the C-47 deployed high-intensity magnesium flares to illuminate those sites for the aircraft following behind it. During their two minutes' burn time the flares would not only more precisely pinpoint the targets, but also degrade their gunners' night vision. Finally, the C-47 also carried 50kg fragmentation bombs and 60-liter napalm canisters, which the crew dropped after the other aircraft had delivered their own ordnance and departed. The modified transport performed its initial tasks as ordered, drawing the expected surface fire and deploying magnesium flares to guide the first P2V-5 bomber. The first Neptune arrived over the target area two minutes later, with the second following two minutes behind that, and both made multiple bomb runs against the target area over the next 50 minutes. After the Neptunes had depleted their 8,000lbs. loads, the C-47 returned to release its own ordnance between 2100 and 2115.[106] Despite the ferocity of the assault, the FARP's anti-aircraft gunners presented "an unexpected and impressive threat," as Krus Abecasis described it, "vomiting high calibre shrapnel against our planes."[107]

The first attack wave was followed by three more between 2300 17 December and 0400 18 December, completing the first night of Operation Resgate.[108] At dawn, T-6s began flying continuous ATIR (armed reconnaissance) missions over FARP infiltration and supply routes leading to the peninsula, while Krus Abecasis and his staff assessed the first night's results. "For the first time, the enemy paid dearly for the usurpation of Portuguese territory," the ZACVG commander concluded with satisfaction: His units had unloaded 30 tons of bombs on PAIGC positions during the previous night, and as far as he was concerned "the punishment was appropriate to their audacity."[109]


SENEGAL
– Portuguese controlled
– Dual control (indecisive allegiance)
– Actively contested areas
– PAIGC controlled / populated
– PAIGC controlled / villages abandoned
Portuguese battalion headquarters
– Infantry battalion (batalhão de caçadores)
– Cavalry battalion (batalhão de cavalaria)
– Artillery battalion (batalhão de artilharia)
– Engineer battalion (batalhão de Engenharia
– Parachute battalion (bat. de caç. paraquedistas)
REPUBLIC OF GUINEA (CONAKRY)
KILOMETERS
5 10 25 50
5 10 25 50
MILES

PAIGC Penetration mid-1966. (Matthew M. Hurley)

The punishment resumed two nights later, 19–20 December, as FAP aircraft launched the second planned series of attacks against insurgent positions in the Cantanhez region. This round was characterised by a marked decline in anti-aircraft fire, presumably due to the damage inflicted during the operation's opening night, and Resgate ended as scheduled on the morning of 20 December.[110] Despite the intensity of the PAIGC's initial response, the FAP did not lose any aircraft during the three-day operation, although two T-6s were hit on the 19th and a single P2V-5 was damaged slightly by air defences during the operation's final night.[111] Regardless of opposition, the FAP's T-6s continued to fly armed reconnaissance and interdiction missions over the objective area until the new year, both to assess the intermediate results and to prepare for a follow-on joint operation to conclusively expel the PAIGC from the Cantanhez region.[112] Despite the increased aerial activity "The enemy did not reveal himself," Krus Abecasis recalled. "The Air Force's purpose was achieved – the flak was either destroyed or did not dare to attack us."[113]

However, remaining FARP elements on the ground enjoyed almost complete freedom of movement and action in the heavily-forested and oft-swamped peninsula.[114] To capitalise on Resgate's apparent success in the air, Governor and CCFAG Arnaldo Schultz approved the follow-on Operation Safari, a joint expedition to annihilate FARP concentrations and installations on the peninsula.[115] Operation Safari took place from 3-4 January 1966 as FAP paratroopers and Navy fuzileiros (marines) made multiple simultaneous landings throughout the Cantanhez Peninsula, backed by heavy air and naval support.[116] Despite some initial successes, including the claimed destruction of a FARP "central base," Portuguese forces encountered stiff opposition in the heavily-forested zone of action and were compelled to withdraw – a development Krus Abecasis described as a "disconcerting rout" leading to "an uncontrolled stampede."[117]

The calamitous outcome did not prevent the Portuguese from returning to the peninsula two and a half months later. Under the protection of Bissalanca-based aircraft, Portuguese forces landed on the Cantanhez coast to initiate Operation Mercúrio ("Mercury") on 19 March 1966. For the first time, some Do-27 utility planes were used as makeshift attack fighters, employing hand grenades as improvised cluster bombs – a method "not without risks for the plane and crew," Abecasis admitted. Though far more limited in scope and aim than its predecessor Safari, Operation Mercúrio was judged a tactical success, meeting no guerrilla resistance and resulting in no reported Portuguese casualties.[118]

Elsewhere in the volatile southern region, on 1 August 1966 the ZACVG launched the three-day Operation Ribalta against FARP militants and infrastructure along the southeast border with the Republic of Guinea. Operations Order 02/66 directed participating forces to conduct a mix of planned attacks, interdiction, and armed reconnaissance missions against pre-identified and emerging targets, beginning with night bombardment by modified C-47s. "Two days and two nights of continuous air operations severely hit the enemy," Krus Abecasis proclaimed, temporarily cowing regional guerrilla units that had been raiding the Portuguese garrisons of Beli and Madina do Boé.[119] Based on prisoner information and intercepted communications, the guerrillas suffered 60 killed, and the rest sought sanctuary by hiding themselves in small groups among civilians in nearby settlements.[120]

The repeated Portuguese offensives failed to blunt the PAIGC's momentum regionally or within the province at large, however. Throughout 1966 the southern sector would remain the most active as the PAIGC consolidated its control over a growing but thinly populated swath of forest, swampland, and brush. The party and its armed wing, the FARP, also increased their presence and activities

Table 23: Aircraft and Aircrew Losses, 1962–1966 (Combat and Accidents)[123]

Date	Aircraft (reg. no.)	Identified crew/passengers	Notes
29 May 1962	T-6G (FAP 1677)	Lt. José Cabaço Neves Sgt. Manuel Soares de Matos	Entered a spin during a low-altitude ATIR mission; both KIA
17 August 1962	F-86F (FAP 5314)	Lt. Amílcar José Barbosa	Exploded after landing mishap; pilot escaped
22 May 1963	T-6G (FAP 1711)	Sgt. Eduardo Nuno Rico Casals	Crashed after collision with T-6G (below); pilot KIA
22 May 1963	T-6G	Sgt. António Lourenço de Sousa Lobato	Crashed after mid-air collision with T-6G (FAP 1711); pilot POW
31 May 1963	F-86F (FAP 5322)	Capt. Fausto Valla	Damaged by bomb fragmentation, crashed; pilot ejected
4 September 1963	Auster (FAP 3546)	Ens. José Madureira Nobre Ens. Eduardo Constantino Spínola de Freitas 1st Sgt. José Pinheiro Garcia	Collided with a palm tree after departing Bissalanca; all KIA
12 October 1963	Broussard	Lt.Col. Marcial; Cap. Gomes do Amaral	Written off after mishap; no other details
14 October 1963	T-6G (FAP 1694)	Capt. João Cardoso de Carvalho Rebelo Valente	Crashed while executing low-altitude aerobatics on a training flight; pilot KIA
24 January 1964	T-6 (FAP 1708)	Ens. João Manuel dos Santos Pité	Shot down by anti-air fire while supporting surface forces during Operation *Tridente*; pilot KIA
24 February 1964	Do-27	Sgt. Frederico Manual Machado Vidal Sgt. Pinto da Rocha	Hit by enemy AA fire, pilot KIA; passenger landed the aircraft successfully
31 July 1964	F-86F	unknown / not reported	Fire due to undercarriage collapse; written off
27 October 1964	T-6G (FAP 1717)	Sgt. José de Sousa Rola Teixeira	Crashed while escorting a MEDEVAC flight, prob. after hit by AA fire; pilot KIA
8 December 1964	Auster (FAP 3515)	Lt. Austrelindo Gaspar Dias Sgt. André Miranda Farinha Cpl. Humberto Manuel Olguim Silva	Aircraft stalled shortly after take-off and crashed; all three aboard KIA

F-86F (FAP 5322), destroyed on 31 May 1963 following a botched bombing raid in Guinea. (Historical Archive of the Air Force)

in northwest Guinea along the Senegalese border, exploiting the scarcity of Portuguese forces in the area and seriously challenging the colonial authorities for regional dominance. Additional FARP units and bases were installed in central Guinea, including the oft-contested Morés region, and from there the guerrillas pressed their operations and influence westward. In eastern Guinea the PAIGC encountered resistance from the dominant Fula population, but nonetheless successfully established a disruptive presence in the sector by infiltrating forces across the territorial border.[121]

Fortunately for the ZACVG, 1965 had been a relatively successful year from a flight safety perspective. The Portuguese air force had lost no aircraft since December 1964 despite continued anti-aircraft fire, hard operational use, the precarious supply situation, and a gruesome incident on 17 June (during which an artillery officer walked into a Do-27's propeller).[122] That no aircraft were written off in 1965 represented a welcome change to the previous three years, during which the ZACVG suffered the destruction of 11 aircraft to combat and non-combat causes, resulting in the deaths of 11 pilots and two other air force personnel. One additional pilot, the unfortunate Sergeant Lobato, remained a prisoner of war in the neighbouring Republic of Guinea, having been captured by PAIGC militants on 22 May 1963.

One of Schultz's senior staff officers, Lieutenant Colonel Castelo Branco, described the problems then facing Portuguese troops in a letter to his commander-in-chief. Branco conceded that insufficient Portuguese resources – in troops, vehicles, transport aircraft, and pilots – and the popular support enjoyed by the PAIGC combined to limit CCFAG's options as the former spread its influence throughout the province. In particular, the insurgents were deeply entrenched in southern Guinea despite repeated Portuguese air and ground offensives, and Branco judged that Lisbon would have to commit to a full-scale war if it wanted to reconquer the region. "In short, the enemy has put his hand on our neck, like a good judo fighter, and we find it difficult to get out of this position," the officer concluded.[124]

In hopes of escaping that hold, the CCFAG and his air commander looked forward to the introduction of new aircraft. The ZACVG's offensive capability had been effectively halved with the withdrawal of the F-86F, consigning strike and fire support duties to the elderly T-6 – and those were increasingly vulnerable to the more advanced AA weaponry entering the FARP's arsenal. Meanwhile, as the FARP increased the frequency and geographic scope of its operations, Portuguese ground forces were finding it more difficult to respond in a timely manner. But Lisbon's diplomatic initiatives vis-à-vis Paris and Bonn had achieved a significant measure of success, allowing Portugal to skirt the American arms embargo by acquiring new, locally produced aircraft from its European partners instead. With the imminent theatre debut of Fiat G.91-R4 attack jets from West Germany and accelerating deliveries of Alouette III helicopters from France, CCFAG commander Schultz and ZACVG chief *Coronel* Krus Abecasis had much occasion for optimism in mid-1966. They also faced the crucial task of effectively integrating these new capabilities into their strategy and operational schema, and the results would define a qualitatively new phase in the air war for Portuguese Guinea.

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Notes

Notes on Terminology

1 Office of the Chairman of the Joint Chiefs of Staff, *DOD Dictionary of Military and Associated Terms* (Washington, DC: The Joint Staff, November 2021), pp.51, 94, 106, 111, 215.

2 "Guiné" in Portuguese.

3 Military Agency for Standardization, STANAG 2116, MIS (Edition 5) – NATO Codes for Grades of Military Personnel (Brussels: North Atlantic Treaty Organization, 1996), passim.; Força Aérea Portuguesa, "Postos e Distintivos," 2022, https://www.emfa.pt/p-201-postos-e-distintivos.

4 "MiG" refers to the Soviet (now Russian) aircraft design bureau founded by Artem I. Mikoyan and Mikhail I. Gurevich in the early 1940s. The abbreviation is properly spelled with a lower-case "i" between the capitalised initials for Mikoyan and Gurevich, as the "i" is Russian for "and" ("*и*" in Cyrillic script). The MiG design bureau has been justly renowned for its production of superlative fighter aircraft, including the MiG-15 of Korean War fame, the MiG-21 of Vietnam notoriety, and the Mach-3 MiG-25 interceptor.

5 These informal nicknames refer to the Fairchild-Republic A-10 Thunderbolt II and the General Dynamics (now Lockheed-Martin) F-16 Fighting Falcon, respectively. That said, no self-respecting A-10 or F-16 driver would ever refer to those aircraft as the "Thunderbolt II" or "Fighting Falcon."

6 The first is applied to the F-15E Strike Eagle ground attack aircraft by pilots of the "pure" air-to-air fighter variant, the F-15C Eagle. The second refers to the F-16's alleged tendency to plunge almost vertically to the ground when its single engine fails. "BUFF," meanwhile, is a nickname applied to the B-52 bomber by the crews themselves; it is an acronym whose polite expansion is "Big Ugly Fat Fellow."

7 NATO "reporting names" for Soviet/Russian, Warsaw Pact, and Chinese aircraft follow a deliberate pattern. Reporting names beginning with the letter "B" refer to bombers (such as the BEAR), while "F" indicates a fighter aircraft (FISHBED, for example), "C" stands for cargo/transport (e.g. CUB), "H" means helicopter (such as HIP), and "M" is a catch-all for miscellaneous types such as tankers, trainers, reconnaissance platforms, and electronic warfare aircraft (MAYA, MIDAS, MIDGET, etc.). Single-syllable NATO reporting names refer to propeller-driven aircraft, while those with two syllables indicate jet propulsion.

8 In this instance, "Fiat" is the designer and prime manufacturer (although the aircraft was also built under license in Germany), "G.91" is the alphanumeric designation, and "R4" is the NATO indicator of the aircraft's role (reconnaissance and ground attack) and modification mark (the fourth).

Introduction

1 "Lição No. 17: Aliu, o Pescador," in Serviços de Instrução do PAIGC, *O Nosso Livro: 2ª Classe* (Regiões Libertades da Guiné: Partido Africano para a Independência da Guiné e Cabo Verde, 1970), p.53.

2 General Thomas D. White, "Military Aerospace Power – New Key to World Peace," *Air Force and Space Digest* 43, no. 2 (February 1960): p.63.

3 "*Guerra subversivo*" in Portuguese military doctrine of the period.

4 John P. Cann, *Counterinsurgency in Africa: The Portuguese Way of War, 1961-1974* (St. Petersburg, FL: Hailer Publishing, 1997), p.1.

5 This was the Soviet-made PZRK 9K32M *Strela-2M* (NATO reporting name SA-7b GRAIL Mod 1), an improved model of the 9K32 *Strela-2* (NATO SA-7 GRAIL). "PZRK" is the Russian abbreviation for *Perenosnoi Zenitno-Raketnyi Kompleks* (Переносной Зенитно-Ракетный Комплекс), or "Portable Anti-Aircraft Missile System" in English, while "9K32" is the Soviet designation and "*Strela*-2 (Стрела-2)" its system name. The missile itself is identified by the Soviet designation "9M32." The "M" suffix to the Russian designator, as well as NATO "b" and "Mod 1" descriptors, denote a distinct variant of the original system. "*Strela*" (стрела) is Russian for "arrow."

Chapter 1

1 Address by Harold Macmillan to Members of both Houses of the Parliament of the Union of South Africa, Cape Town, 3 February 1960, https://web-archives.univ-pau.fr/english/TD2doc1.pdf.

2 Manuel Themudo Barata, "Le Portugal et les conflits de la decolonization: 1961-1974," *Guerres mondiales et conflits comtemporains* no. 178 (April 1995): 74; José da Silva Horta, "Evidence for a Luso-African Identity in 'Portuguese' Accounts on 'Guinea of Cape Verde' (Sixteenth–Seventeenth Centuries)," *History in Africa* 27 (2000): p. 99; George Martelli, "The Portuguese in Guinea," *The World Today* 21, no. 8 (August 1965): p.346.

3 After 1499, "Lord of Guinea and of the Conquest, Navigation, and Commerce of Ethiopia, Arabia, Persia, and India" (*Senhor de Guiné e da Conquista, e da Navegação e Comércio de Etiópia, Arábia, Pérsia e da India*). Peter Karibe Mendy, "Portugal's Civilizing Mission in Colonial Guinea-Bissau: Rhetoric and Reality," *The International Journal of African Historical Studies* 36, no. 1 (2003), p. 37. For claims instituted in 1466, including assertations of "absolute rights over the Africans" and "exclusive license to trade," see Walter Rodney, *A History of the Upper Guinea Coast 1545-1800* (Oxford: Oxford University Press, 1970), p.72.

4 That is, until the independence of Brazil in 1822.

5 Kenneth Maxwell, "The Thorns of the Portuguese Revolution," *Foreign Affairs* 54, no. 2 (January 1976), p.270.

6 Thomas H. Henriksen, "Portugal in Africa: A Noneconomic Interpretation," *African Studies Review* 16, no. 3 (December 1973): p. 407. The term "Scramble for Africa" first appeared in an 1884 British newspaper article, appropriately entitled "The Scramble for Africa," *The Times* (London), 15 September 1884, p.8.

7 Bruce Vandervort, *Wars of Imperial Conquest in Africa, 1830-1914* (Bloomington, IN: Indiana University Press, 1998), p.34.

8 For two contemporary Portuguese accounts, see Luís António de Carvalho, *Ilha de Canhabaque: Relatório das Operações Militares em 1935-1936* (Bolama, Portuguese Guinea: Imprensa Nacional, 1937), and João Teixeira Pinto, *A Ocupação Militar da Guiné* (Lisbon: Agência Geral das Colónias, 1936).

9 "Dr. Salazar's Warning to West on NATO; 'Source of Disastrous Results'," *The Times* (London), 24 March 1966, p.12.

10 João Medina, "The Old Lie: Some Portuguese Contemporary Novels on the Colonial Wars in Africa (1961-1974)," *Portuguese Studies* 15, no. 1 (January 1999): p.151.

11 Ministério das Colónias – Secreteria Geral, "Acto Colónial," *Diário do Govêrno I*, no. 156 (8 July 1930), p.1309.

12 Luis Ángel Sánchez-Gómez, "Imperial Faith and Catholic Missions in the Grand Exhibitions of the *Estado Novo*," *Análise Social* 44, no. 193 (2009), p.671; Paulo S. Polanah, "'The Zenith of our National History!' National Identity, Colonial Empire, and the Promotion of the Portuguese Discoveries: Portugal 1930s," *Journal of Portuguese History* 9, no. 1 (Summer 2001), p.45.

13 Maria Isabel João, "Public Memory and Power in Portugal (1880-1960)," *Portuguese Studies* 18 (2002), p.114.

14 Kenneth Maxwell, *The Making of Portuguese Democracy* (New York: Cambridge University Press, 1995), p.18.

15 James D. Sidaway and Marcus Power, "'The Tears of Portugal': Empire, Identity, 'Race', and Destiny in Portuguese Geopolitical Narratives," *Environment and Planning D: Society and Space* 23, no. 4 (2005), p.543.

16 Malyn Newitt, *Portugal in Africa: The Last Hundred Years* (London: C. Hurst & Co., 1981), p.47. Newitt notes that "It was typical of Salazar and his advisers to believe that such simple strokes of the pen could spirit away all Portugal's problems as a colonial power." Further, historian A.H. de Oliveira Marques contends that, to the Portuguese authorities, "the word 'colonies' meant little – a result of French influence." He explains that the terms "colony" and "province" were often used in official Portuguese texts with the same meaning apparently intended regardless of the label applied. A.H. de Oliveira Marques, *History of Portugal, Vol. II: From Empire to Corporate State* (New York: Columbia University Press, 1972), p.225.

17 Elizabeth Morris, "Portugal's Politics Remain Unaltered," *The World Today* 20, no. 1 (January 1964), p.18; Andrew Marshall, "Portugal: A Determined Empire," *The World Today* 17, no. 3 (March 1961), p.98.

18 Marshall, p. 98; Norrie MacQueen, "Belated Decolonization and UN Politics against the Backdrop of the Cold War: Portugal, Britain, and Guinea-Bissau's Declaration of Independence, 1973-1974," *Journal of Cold War Studies* 8, no. 4 (Fall 2006), p.35. David Corkill and José Carlos Pina Almeida, "Commemoration and Propaganda in Salazar's Portugal: The *Mundo Portugûes* Exposition of 1940," *Journal of Contemporary History* 44, no. 3 (July 2009), pp.384, 395.

19 *Portuguese Africa: An Introduction* (Lisbon: Ministry of Foreign Affairs, 1973), p.21.

20 Norrie MacQueen, "Portugal's First Domino: 'Pluricontinentalism' and Colonial War in Guinea-Bissau, 1963-1974," *Contemporary European History* 8, no. 2 (July 1999), pp.209–230; Sidaway and Power, pp.527–554.

21 Polanah, p.15.

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43 Such arms deliveries began with the "Czech Arms Deal" of 1955, by which the Soviet Union first provided modern military equipment – including frontline jet bombers and fighter aircraft – to a non-Communist Bloc nation. Stephen S. Kaplan, *Diplomacy of Power: Soviet Armed Forces as a Political Instrument* (Washington, DC: The Brookings Institution, 1981), p.153; Lon Nordeen and David Nicole, *Phoenix over the Nile: A History of Egyptian Airpower, 1932-1994* (Washington: Smithsonian, 1996), p.145.

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45 Amílcar Cabral, *Revolution in Guinea: Selected Texts by Amilcar Cabral* (New York: Monthly Review Press, 1969), p.37; Blackey, p.193.

46 Dhada, "The Liberation War in Guinea-Bissau Reconsidered," p.572; Blackey, p.199; George M. Houser, *No One Can Stop the Rain: Glimpses of Africa's Liberation Struggle* (New York: The Pilgrim Press, 1989), pp.203–204; Chabal, "National Liberation in Portuguese Guinea, 1956-1974," pp.80–81.

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51 Amílcar Cabral, *Return to the Source: Selected Speeches of Amílcar Cabral* (New York: Africa Information Service, 1973), p.87; Cabral, *Revolution in Guinea*, pp.138–139.

52 Jock McCulloch, *In the Twilight of Revolution: The Political Theory of Amilcar Cabral* (London: Routledge & Kegan Paul, 1983), pp.20–21; Chabal, "National Liberation in Portuguese Guinea, 1956-1974," p.92. This last guideline is a hallmark of modern guerrilla operations. As Robert Taber noted in his landmark 1965 work *War of the Flea*, guerrillas generally only fight "in order to survive. Given their inferiority of resources, they can survive only by avoiding direct confrontation with a superior enemy." Robert Taber, *War of the Flea: The Classic Study of Guerrilla Warfare* (Washington, DC: Potomac Books, 2002), p.40.

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28 de Jesus Bispo, "A Aviação na Guiné – início das operações militares," p.274.

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13 Luís Nuno Rodrigues, "'For a Better Guinea!' Winning Hearts and Minds in Portuguese Guinea" (presentation, "Legacies of Conflict, Decolonisation and the Cold War," Instituto Universitário de Lisboa, Lisbon, 28 May 2010).

14 de Fraga, *A Força Aérea na Guerra em África*, p.105.

15 "Exposição feita pelo Comandante-Chefe das Forças Armadas na Guiné no CSM," 4 Setembro 1963, SGDN/1REP/092/0306/004, ADN; de Figueiredo, p.49.

16 Correia, "'Rotina' de guerra," p.42.

17 de Fraga, *A Força Aérea na Guerra em África*, p.106.

18 On 31 July, AB2-Bissalanca commander Lieutenant Colonel Barbeitos was forced to make an emergency landing after a gun malfunction damaged his F-86's nose gear (FAP 5313). As the resulting damage could not be locally repaired, its wing was used to repair combat damage suffered by FAP 5305 during a sortie over the Oío region on 10 August. Correia, "'Rotina' de guerra," p.41.

19 These included FAP 5306 and 5313, which were damaged; 5324, disassembled for major repair; and 5330, which had exceeded its IRAN deadline and suffered landing gear cracks. Correia, "'Rotina' de guerra," p.41.

20 Duncan Curtis, *North American F-86 Sabre* (Marlborough, UK; The Crowood Press, 2000), p.173.

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22 Carta do Comando-Chefe da Guiné para o Secretariado-Geral da Defesa Nacional, 4 July 1964, F1/07/31/21, ADN.

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24 Comando-Chefe das Forças Armadas de Angola, "Transferência de aviões F-84 para a Guiné, Luanda," 1 August 1964, SGDN/1REP/077/0270/002, ADN.

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26 José Matos, "O *Projecto Feierabend e a compra do Fiat G.91 – 1a Parte*," *Mais Alto* 50, no. 396 (March–April 2012), pp.38–39.

27 Fonseca, pp.175–176.

28 Mario Canongia Lopes, "Portugal's Ginas," *Air Enthusiast* 36 (May–August 1988), p.64.

29 Krus Abecasis, *Bordo de ataque, II Vol.*, p.456.

30 de Fraga, *A Força Aérea na Guerra em África*, p.104.

31 *Resenha Histórico-Militar das Campanhas de África (1961-1974)* 6-II-I, p.298; Afonso and de Matos Gomes, *Os Anos da Guerra Colonial, 1961.1975*, p.272; de Fraga, *A Força Aérea na Guerra em África*, p.104.

32 Afonso and de Matos Gomes, *Os Anos da Guerra Colonial, 1961.1975*, p.275.

33 Krus Abecasis, *Bordo de ataque, II Vol.*, p.476.

34 Krus Abecasis, *Bordo de ataque, II Vol.*, pp. 456, 473.

35 "Missão do CEM do Comando da 1ª RA à Zona Aérea de Cabo Verde e Guiné entre 5 e 23 Agosto 1963: Relatório," 1963, SGDN/1REP/077/0270/002, ADN.

36 "Esquema da Palestra, 'A F.A. na Guiné, 1963-1965,'" AHFA; Krus Abecasis, *Bordo de ataque, II Vol.*, p.502.

37 Krus Abecasis, *Bordo de ataque, II Vol.*, pp.582–583. Nova Lamego was the furthest major ZACVG airfield from Bissalanca, complicating reinforcement, liaison, and communications between BA12 and forces in eastern Guinea.

38 de Fraga, *A Força Aérea na Guerra em África*, p.107.

39 "Missão à Guiné (de 11 a 18 de Maio de 1963)," SGDN/1REP/061/0231/063, ADN.

40 "Manual do Apoio Aéreo na Contra-Guerrilha," 1972, AHFA.

41 "Manual do Apoio Aéreo na Contra-Guerrilha," 1972, AHFA.

42 Canongia Lopes, "Portugal's Ginas," pp.65–66.

43 "Missão à Guiné (de 11 a 18 de Maio de 1963)," SGDN/1REP/061/0231/063, ADN; Brochado de Miranda, "El Empleo del Arma Aérea en la Lucha Antiguerrilla," p.597.

44 Krus Abecasis, *Bordo de ataque, II Vol.*, p.468.

45 de Fraga, *A Força Aérea na Guerra em África*, p.108.

46 Krus Abecasis, *Bordo de ataque, II Vol.*, pp.466–467; *Resenha Histórico-Militar das Campanhas de África (1961-1974)* 6-II-I, pp.484–485; de Fraga, *A Força Aérea na Guerra em África*, p.108.

47 de Fraga, *A Força Aérea na Guerra em África*, pp.105–106.

48 Castanho Paes, p.221.

49 Although later designated AC-47, the first USAF gunships were originally labelled "FC-47." Captain James L. Cole Jr., *Project CHECO Southeast Asia Report. Fixed Wing Gunships in SEA (Jul 69 – Jul 71)*, ADA486516 (Hickam AFB, HI: Pacific Air Forces Directorate of Operations Analysis – CHECO/CORONA HARVEST Division, 30 November 1971), p.1.

50 Krus Abecasis, *Bordo de ataque, II Vol.*, p.472.

51 Krus Abecasis, *Bordo de ataque, II Vol.*, pp.472–473; de Fraga, *A Força Aérea na Guerra em África*, p.108.

52 For a summation of the "anti-air war," see José Matos, "A guerra das antiaéreas na Guiné (1965/1970)," *Revista Militar* no. 2601 (October 2018): https://www.revistamilitar.pt/artigo/1355.

53 T. E. Lawrence, *The Seven Pillars of Wisdom: A Triumph* (New York: Anchor Books, 1991), pp.612–615; Che Guevara, *Guerrilla Warfare* (Lincoln, NE: University of Nebraska Press, 1998), pp.109–110; Mao Zedong, "On Protracted War," in *Selected Military Writings of Mao Tse-Tung* (Beijing: Foreign Languages Press, 1967), passim; Vo Nguyen Giap, "People's War against U.S. Aero-Naval War," in *Vo Nguyen Giap: Selected Writings* (Hanoi: Foreign Languages Publishing House, 1977), passim. For his part, Che Guevara listed air defence as the second skill to be taught to novice guerrillas, following basic small arms employment.

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58 Chaliland, p.84; see also Pyotr Yevsyukov, Oleg Ignatyev, Pavel Mikhalev, and Anatoli Nikanorov, *Password: "Anguimo" – Reports from Angola, Guinea-Bissau and Mozambique* (Moscow: Novisti Press Agency Publishing House, 1974), p.55.

59 Luís Cabral, *Crónica da Libertação* (Lisbon: O Jornal, 1974), p.354; Pedro Machado, "Liberation Movement Discussed by Guerrilla Leader," *Etumba* (Brazzaville), 11 September 1971, in Joint Publications Research Service, *Translations on Africa No. 1081*, JPRS 54466, 11 November 1971, p.6.

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97 Krus Abecasis, *Bordo de ataque, II Vol.*, p.487.

98 Krus Abecasis contends the ZPU-series of anti-aircraft weapons first appeared in Portuguese Guinea by 1965; see Krus Abecasis, *Bordo de ataque, II Vol.*, p.459. However, Lieutenant General José Nico asserts the first ZPU-series gun in Guinea was not observed until early 1968; see Nico, p.193.

99 "Vladimirov KPV ZPU-4," National Museum of the United States Air Force, no date, nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/198016/vladimirov-kpv-zpu-4/.

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107 Krus Abecasis, *Bordo de ataque, II Vol.*, p.492.

108 Krus Abecasis, *Bordo de ataque, II Vol.*, p.494.

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113 Krus Abecasis, *Bordo de ataque, II Vol.*, p.502.

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115 *Resenha Histórico-Militar das Campanhas de África (1961-1974)* 6-II-I, p.387.

116 *Resenha Histórico-Militar das Campanhas de África (1961-1974)* 6-II-I, p.387.

117 *Resenha Histórico-Militar das Campanhas de África (1961-1974)* 6-II-I, p.387; Krus Abecasis, *Bordo de ataque, II Vol.*, p.502–506.

118 Krus Abecasis, *Bordo de ataque, II Vol.*, p.514.

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121 *Resenha Histórico-Militar das Campanhas de África (1961-1974)* 6-II-I, p.365; Dhada, "The Liberation War in Guinea-Bissau Reconsidered," pp.579–582.

122 Brochado de Miranda, *Acidentes Mortais em Aeronaves, 1917-2016*, p.30.

123 Brochado de Miranda, *Acidentes Mortais em Aeronaves, 1917-2016*, p.34; Brandão, passim.; Flight Safety Foundation/Aviation Safety Network, "Guinea-Bissau," 2022, https://aviation-safety.net/wikibase/dblist.php?Country=J5; Correia, "'Rotina' de guerra," p.35; "Avião militar incendiado na Guiné," *Diário de Lisboa* 44, no. 14953 (1 August 1964), p.2.

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